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The Conference Board, Inc.
845 Third Avenue
New York, New York 10022
(212) 759-0900
RCA International Telex
237282 and 234465

The Conference Board, Inc.
Avenue Louise, 207 - Bte 5
B-1050 Brussels, Belgium
(02) 640 62 40
Telex: 63535

The Conference Board, Inc.
Congressional Assistant Program
1755 Massachusetts Avenue, N.W.
Suite 324
Washington, D.C. 20036
(202) 483-0580

The Conference Board of Canada
25 McArthur Road
Suite 100
Ottawa, Ontario, K1L-6R3
(613) 746-1261

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Adapting Products for Export

by Virginia M. Yorio

A Research Report from The Conference Board

Contents

Page

HIGHLIGHTS v

WHY THIS REPORT vii

1. INTRODUCTION 1
   - Organizational Issues 2
   - Common Dilemmas 3

2. FACTORS AFFECTING THE ADAPTATION OF PRODUCTS FOR EXPORT 5
   - Inherent Characteristics of the Market Environment 5
     - Government Regulations 5
     - Tariffs and Taxes 6
     - Nontariff Barriers 6
     - Nongovernmental Regulations 8
     - Competitive Offerings 8
     - Culture 8
     - Economic Development 10
     - Purchase and Distribution Patterns 11
     - Climate and Geography 11
   - Inherent Characteristics of the Product 11
     - Functions and Attributes 12
     - Method of Operation 12
     - Quality 12
     - Product Service 14
     - Appearance 14
     - Method of Shipment 15
   - Inherent Characteristics of the Company 15
   - Market Potential and Profitability 17
     - Product-Market Fit 17
     - Cost of Altering or Adapting 17
     - Desire for Consistency 18

3. PRODUCT ADAPTATION DECISIONS 19
   - Functional Units Involved 19
   - Coordination and Conflict Resolution 22
   - Final Approval 23
   - Information Sources 24
   - Decision Support 28
   - Implementing Adaptation Decisions 29

Tables

1. Organization of International Activities in Divisionalized Companies 3
2. Responsibility for Final Decision on Adapting Products for Export 24
3. Reported Representation of Functional Executives on Committees Making Final Adaptation Decision 24

Exhibits

1. Considerations Affecting Export Adaptation Decisions 6
2. Local Factors Potentially Affecting Need to Adapt Products for Export 7
3. Major Regional Trade Associations 9
4. A Country Classification System Based on Stages of Development —General Electric Company 11
5. Product Characteristics Potentially Affecting Need to Adapt Products for Export 13
6. Company Considerations Potentially Affecting Need to Adapt Products for Export 16
7. A National Account Request Form—Wilkerson Corporation 26
8. A Form for Requesting a Modified Product—Wilkerson Corporation 27
9. A Sample Grid for Industrial Vehicles 28
10. An Environmental Factor/Adaptation Rating Scale 29
11. A Checklist Form for Proposed Product Adaptation 30

Highlights

When domestic products are offered for sale in foreign markets, some require no adaptation at all for acceptance and use by foreign customers. Others could be sold with substantial modification, but the resulting cost would be prohibitive. In between are situations where some adaptation for export may be mandatory and potentially affordable, or where a product--salable as is--could conceivably benefit from some modification. Often, the costs, benefits and other considerations relating to possible product adaptation in such cases are not clear and self-evident and, therefore, may require further study before management decides what to do.

Among the more than 200 companies surveyed by The Conference Board that face the question of whether to adapt products for export, about two in five say the issue comes up "frequently," and for another two in five the issue "sometimes" arises.

The need or possibility for a company to adapt a domestic product for sale outside the home country is largely determined by three sets of factors:

(1) *Inherent characteristics of the market environment.* To the extent that an intended export market resembles the domestic market for a product, this usually reduces the likelihood that a domestic product will require adaptation for export sale. The following are characteristics of foreign markets that companies commonly judge to be important in their potential effect on this need: government regulations, including tariff and nontariff barriers; customer expectations and preferences; competitive offerings by local competitors and other exporters; cultural factors (e.g., tastes, habits, values); product purchase and usage patterns; the economic status of potential users; the stage or level of a country's economic development; climate; and geography.

(2) *Inherent product characteristics.* Key features of the product itself often help to determine whether modification of a product may be beneficial, or even essential, for its successful sale in export markets. Those most often reported to be potentially important in management's evaluation of export adaptation requirements are: quality; method of operation (e.g., power source, skill required to operate or use the product); product functions and attributes; appearance; availability of support services; and methods used for shipment.

(3) *Inherent characteristics of the company.* Certain factors that influence the need or possibility for modifying its products for export sale often exist within the company itself. These frequently include: the nature of the export market requirements as perceived by those with the authority to take action; the expected profits from export of the product in question, with and without modification; the probable costs and results of modifying the product in some way; and long-standing company policies and preferences, including the relative importance accorded to product and image consistency in diverse markets.

While some adapted products need only minor or cosmetic changes for sale abroad, others require greater modification. For most exporting companies, only a few, at most, of their domestic products sold in export require substantial adaptation. Moreover, the expense for making such alterations is usually moderate. (When modification would be more costly, some may not even consider the possibility.)

The concern of management, of course, is that modifications of products for export be justified in terms of potential sales and contribution to profits. Although most product-adaptation decisions are made informally, four in ten companies have established formal policies and procedures for proposing, evaluating and approving potential product adaptations for export. These arrangements are very often similar or actually identical to those employed for dealing with proposals involving new products being considered for domestic sale.

The kinds of information brought together for careful analysis procedures most often include the implications of the proposed adaptation with respect to sales volume; pricing; competitive position; engineering action and costs; profit contribution; return on investment; cash

flow; and the like. Given the diversity of the functions affected and of the information required, several different company units are likely to be involved—such as international operations, manufacturing, engineering and marketing.

It is common practice to vest the responsibility for the final decision for adapting products in a single executive. Most often that executive is a member of general management, such as the company chairman or president, or else the head of the operating division that produces the domestic product in question.

Following a different course, nearly one-fourth of the reporting companies, give final say-so on adaptation proposals to a committee. The functions most frequently represented on such committees are international operations, engineering or other technical units, and, in at least half the cases, the marketing or sales department.

The circumstances peculiar to each instance of product adaptation determine who will be called on to make the actual change, where it will be made, and how it will be carried out. Common ways of adapting domestic products for export include add-ons, special kits, component substitution, purchase, partial customizing of the product, and design-stage adaptation.

For companies heavily dependent on exports, considering product adaptation issues at the design or product development stage has increasing appeal. Thus, some companies are able to build flexibility into original product designs that allow a product to be easily and inexpensively adapted later on. Others, employing a broad marketing approach, are sometimes able to design products that are suitable for multiple markets. A few companies, in effect bypassing adaptation problems entirely, find it possible to meet the most stringent standards or requirements encountered anywhere with "global" products acceptable in all their markets.

Uses and Sources for This Report

The research findings presented in this report should be of interest to manufacturers considering or engaged in the export of products whose chances of sale abroad might be improved through modification. It offers reminders of factors that influence modification decisions and of ways in which experienced exporters arrange to implement them.

The report reflects the experiences and practices of more than 200 U.S. manufacturing companies engaged in export. It excludes those of nonmanufacturing companies, as well as of manufacturers that (1) do not export, (2) export only to military or other government installations overseas, or (3) customize their products for all buyers. On average, the companies reporting have 36 years of export experience and an annual volume of exports equal to 20 percent of their total sales.

The bulk of the report is based on information provided by 197 exporting companies—57 manufacturers of consumer products and 140 manufacturers of nonconsumer products—that face product adaptation issues at one time or another. Additional material was provided by 24 companies that sell abroad but never adapt their products for export.

In two-thirds of the cases, information reported on company policies and practices applied to the firm as a whole. In the remaining cases, it described the situation for a single operating unit in the company—often the one most heavily engaged in exports.

Information for the report was gathered both through a mail survey and through interviews of selected executives having responsibility for international marketing and/or export activities in their companies.

The research was conducted by Virginia M. Yorio, research associate in the Board's Marketing Management Research unit, under direction of Earl L. Bailey, the unit's director.

Why This Report

At a time when many manufacturers everywhere face slackening growth in home markets, the prospect of increased export sales often represents a promising source of future profits.

As this report confirms, however, many companies cannot hope to capitalize fully on their export potential with identical products now marketed successfully to domestic customers. Certain items cannot be sold at all in foreign markets without being modified. Others may be sold as is, but buyer acceptance would be greatly enhanced if they were tailored more specifically to export markets.

This report examines what managements take into account in determining why, whether and how their companies' domestic product offerings may need to be physically altered or adapted in some way for export sale. Among other things, it demonstrates that companies with effective export adaptation programs generally approach product-alteration questions in much the same way that successful market innovators approach new-product questions—that is, systematically, objectively and with the assured collaboration of such company units as international operations, engineering, manufacturing and marketing.

To the more than 200 executives who cooperated in this study, The Conference Board extends its sincere thanks.

JAMES T. MILLS
President

Chapter 1
Introduction

MANUFACTURERS usually begin by producing for their home markets. Then, as opportunities arise, they may begin to participate as well in foreign markets through export, joint ventures, licensing, or ultimately, overseas manufacture. For many companies, exports of home-country products have, in time, come to form an integral part of their plans for future growth and profits.

Before a home-country product can be sold abroad, many questions may need answering.[1] To what extent does the product lend itself to international sale as is—without modification? Should several separate products be designed for different countries or regions? Is it possible to design a "global" product?

When sold beyond the producer's home-country market, certain kinds of products require no adaptation at all for acceptance by foreign customers.[2] Other products would automatically require substantial modification if they were to be offered for sale abroad, but the resulting cost would be so high that it is not feasible. In between these extremes are products for which adaptation for export is either (1) mandatory and possibly affordable by the manufacturer, or (2) optional—that is, with the product potentially salable as is, but also conceivably liable to achieve greater sales with some degree of modification.[3] In either of these situations—where the costs, benefits and other considerations relating to possible product adaptation are not clear and self-evident—the situation may require careful advance study.

Among the companies surveyed by The Conference Board that face the question of whether or not to adapt products for possible export, about two in five—evenly distributed between consumer and nonconsumer products manufacturers—say the issue comes up "frequently" for them. Another two in five report that the issue arises only "sometimes." Among the remainder of the companies (slightly less than one in five), product adaptation issues are "very seldom" encountered.

Understandably, two highly relevant considerations are the degree to which products may possibly require adaptation and the potential expense involved. While some products may need only minor or cosmetic changes for sale abroad, others may require a great deal more modification. More than half of the respondents say that only a few of their domestic products require *substantial* adaptation.

For six out of ten companies surveyed, the potential expense of modifying products for foreign sale is usually *moderate*. In some cases, however, this may simply mean that the expense tends to be moderate when modification is given serious consideration and acted upon, but that the possibility is perhaps not even considered when it would be truly costly. Expenses are likely to be affected both by the number and types of products that must be adapted, as well as by the degree of adaptation called for. For example, more than one-third of the responding companies that are frequently confronted with adaptation issues make substantial modifications of some of their products at only moderate cost.

Some companies that are able to follow a policy of product standardization never adapt their products for sale abroad. They may strive for economies of scale in production, stock control, servicing and the like. Or they may seek consistency in such things as product styling, selling approaches, customer service programs, brand names, and packaging, or an assurance of a unified worldwide image to the customer. Managements in still other companies stress the improved planning and control that can be achieved when a company markets standardized products internationally.

[1]To limit repetition, the word "product" is used throughout this report to stand for a single product offering of a company or for multiple items grouped into a line of related products.

[2]For purposes of this report, adaptation is considered any physical change or alteration that differentiates the overseas product from the version sold in the domestic or home market.

[3]Although imported products (particularly from such areas as East Europe) are sometimes adapted in order to upgrade them and enhance their sales value, this study is concerned solely with adaptation of exported products.

Some Reasons Managements Give for Not Adapting Products for Export Markets

"Frequently adaptation does not occur since a product is manufactured abroad. We have multiple subsidiaries in other parts of the world where goods are manufactured. We do export from the United States, and while our export business is about 10 percent of our revenues, our total out-of-U.S. business accounts for 35 percent."
—A manufacturer of components and accessories

"The export product comes out of the same molds as that produced for the domestic market."
—A tire manufacturer

"We have a policy of consistency in product specifications all over the world. Our product has a distinct 'American image' which we maintain in all locations."
—A tobacco company

"Each machine is custom-designed for the customer, whether domestic or export, so the only 'adaptation' is for the electrical equipment abroad."
—A diversified manufacturer

"It is our policy not to adapt products for export."
—A producer of building supplies

"Our products are of the same design worldwide. In a few countries, we are not required to install certain noise and pollution controls required in the United States, but this does not require a different design."
—A manufacturer of heavy equipment

"In those few instances where modifications have been requested, our lack of knowledge about market potential and cost considerations have caused us to decide against product adaptation."
—A machinery manufacturer

"Our products are chemical compounds, thoroughly tested and researched. As such, arbitrary changes in formulation cannot be made."
—A small chemicals company

"The most important attribute of certain kinds of writing paper is the subjective one of color. In the European market, for example, there is a strong preference for a blue-white color, compared to a yellow-white color that is standard in the United States. To change the color would require such a substantial alteration in manufacturing procedures that virtually nobody does it. Color does not affect the utility of the product. Perhaps in time there will be more color uniformity in the world markets."
—A paper company

"Export markets are typically small in sales volume and do not justify adaptations. As markets grow, adaptation becomes an issue."
—A consumer durables company

"Export market options and features are incorporated in original designs. It is far too costly and difficult to adapt or modify our products at a later time."
—An instruments producer

"The company sells its product primarily on its technology. The company is more influenced by competitors and competitive offerings than by any particular request from an individual customer for some kind of adaptation."
—A business equipment manufacturer

When they adapt their products, some manufacturers try to balance the economies enjoyed from standardizing products worldwide against the possible need to adapt products to conform to varying governmental regulations, environmental conditions, competitive challenges, and the like in the overseas market environment.

Organizational Issues

The level and nature of company units and functions directly concerned with export-product adaptation influence both organizational and procedural approaches for dealing with these matters. It is usually the "export sales" unit that is most advantageously situated to identify and capitalize on opportunities in foreign markets, and to initiate action when some modification of standard domestic products may be necessary or desirable for selling to such markets. The actual role of export sales in this regard, however, depends partly on the number and location of such functions in the company. Sometimes these functions in the multidivision company are decentralized at the operating level; more often, they are centralized at a "group" or corporate level. An export sales unit at the operating level is often an adjunct to a division's marketing or sales department; at higher levels, it is likely to be a part of a unit responsible for overall coordination of international operations—for an operating group or for the company as a whole.

The most common situation among the divisionalized companies surveyed (see Table 1) finds responsibility for both export sales and other international operations

Table 1: Organization of International Activities in Divisionalized Companies

Organizational approach	Number of Companies	Percent of Companies
Both export sales and other international operations are centralized	59	39%
Both export sales and other international operations are decentralized	44	29
Export sales are decentralized while other international operations are centralized	21	14
Centralized export sales units at corporate level serve some, but not all divisions	15	10
Export sales are centralized while other international operations are decentralized	5	3
Some other situation	8	5
Total	152	100%

Note: Based on information provided by 152 divisionalized companies.

(e.g., those concerned with such matters as overseas strategy, manufacture, joint ventures) centralized at corporate headquarters. The next most common approach finds both export sales and other international operations to be decentralized to the company's various operating units. Less common is an arrangement that makes individual operating units responsible for their own export sales, but assigns to a separate international unit at headquarters the coordinating responsibility for all international activities in the company.

Beyond these, there are mixed situations in a small minority of reported cases where such organizational arrangements and assignments are not handled in a uniform way throughout the company. This may be because of historical accident, perhaps with an acquired unit permitted to continue exporting autonomously, or because a particular geographic market or product line that is judged to be exceptionally promising or to pose special problems has been singled out for special organizational treatment and attention.

Such a mixed approach exists at one multidivisional, multiproduct company, for example, where virtually all of its export sales are handled separately by each of its several operating units, and other kinds of international activities are generally conducted at a "group" level. Major exceptions, however, are the coordination of both exports and international operations relating to Asia at corporate headquarters. Given the specialized needs, high standards, and growth potential of the Asian market, it was judged deserving of top-level attention under a director who reports to the company's chairman.

A few other companies, whose international sales activities are largely decentralized, have found it beneficial to achieve central coordination and administrative support (e.g., documentation, appointment of representatives across business product lines) through use of a matrix organization.

If a company lacks the internal capacity for directing export marketing, it will sometimes turn outside to export management companies (EMC's) for assistance. EMC's often operate as contract export departments for the manufacturers they represent, performing such routine functions of export departments as research, planning, promotion, maintaining links to distribution channels, processing orders, and reporting to management. The manufacturing company's management, however, usually retains decision-making authority on major issues, including product adaptation.

Common Dilemmas

International marketers report a variety of problems in resolving product-adaptation issues. Some of the most common are discussed below.

Company Integration: Many managements find it difficult to fulfill simultaneously the often conflicting needs and requirements of both international and domestic markets. Usually, a U.S. company's business procedures were set up initially to cater to domestic customers that continue to represent its prime market. However, once management decides to capitalize on opportunities outside that home area, it is faced with having to reevaluate established ways of doing things to see if they are viable for serving both domestic and overseas markets. A natural reluctance to change can result in a built-in prejudice in favor of the domestic market and a bias against possible needs for modifying products, production runs, distribution systems, quality control, and other elements to fit differing circumstances in overseas markets. It is not uncommon for executives in charge of international operations to voice concern about a lack of appreciation for such issues—including the need for product adaptation—at the very highest levels within their firms.

Lack of Needed Information: When an exporter is dealing with an unfamiliar foreign environment, it may be difficult to confirm the need or possibility for adapting domestic products for export sale. Even when factors affecting that need are already known or easily identified, supporting information on the foreign market may be scanty or inaccurate.

Product Proliferation: When resolving conflicting adaptation requirements for similar products to be sold in dissimilar markets worldwide, companies try to avoid needless extension and proliferation of their product lines

by having as much "commonality" (e.g., products with common identical features, parts and accessories) as possible, thus keeping their costs down and competitive.

Is It Worth It? The merit of incurring the expense of adapting or modifying a product is, of course, the crux of the question. The answer depends partly on an ability to gauge comparative costs, market potential, and profitability over both the short and long term.

There is no magic formula, managements acknowledge, for resolving questions on product adaptation. Most are still refining ways for handling the myriad of issues faced when considering the possibility of adapting products for export. There is, however, ample evidence that, with experience, companies are successfully implementing both formal and informal procedures to facilitate adaptation decisions.

Chapter 2

Factors Affecting the Adaptation of Products for Export

THE NEED for, or possibility of, adapting a domestic product for sale outside the home country is largely determined by three sets of factors (see Exhibit 1):

(1) Inherent characteristics of the market environment in which the export product is to be distributed and used;
(2) Inherent characteristics of the product under consideration;
(3) Inherent characteristics of (or elements within) the company itself.

In some cases, many of the relevant facts and issues surrounding adaptation decisions are well-known within the company. In others, a formal probe is required to identify and clarify matters.

Inherent Characteristics of the Market Environment

To the extent that an intended export market resembles the domestic market for a product, this will often reduce the possible need for modifying the product for export sale. On the other hand, if the overseas market differs in important ways, then there is a possibility that the product will require some kind of adaptation for successful introduction into that market. Exhibit 2 summarizes the principal characteristics of foreign markets commonly reported to be important in their potential effect on the need for a company to adapt a product sold domestically before its sale for export.

Government Regulations

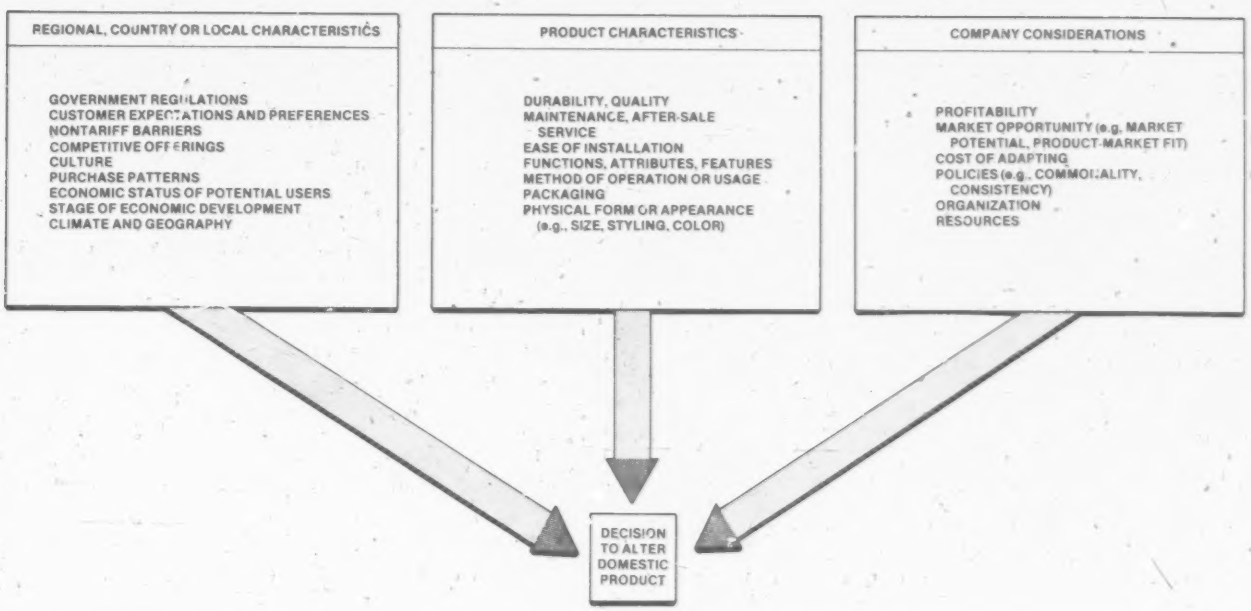
When governmental jurisdictions elsewhere establish standards for products that differ from those at home, this may force domestic manufacturers to modify their exported products to meet the foreign standards. For nearly three-quarters of the companies surveyed, such regulations are a "relatively important" factor in influencing product-adaptation decisions.[1] In addition to varying health codes to which the products of food and drug producers are subject, other regulatory factors have particular relevance for many consumer durable manufacturers.

One consideration for the seller is the intention behind a foreign law affecting product standards. Governments sometimes perceive international business as injurious to their countries' internal welfare. Rather than adapt out-and-out restrictions against the importation of certain products, they may seek protection through a wide variety of complicated regulations relating to safety and health. One diversified industrial manufacturing company has faced the dilemma of determining the intent of government regulations. "In some cases," a company executive explains, "there may be either a conscious or subconscious attempt to restrict trade. It may be accidental; it may be intentional. In other cases, the codes may have been or may even now be justified for one reason or another." If a law is designed to reduce or eliminate foreign competition, exporters say, efforts to comply may be met with additional rules to enforce the original objective—keeping foreign products out of the country. Changing rules in such cases are ruefully referred to as "floating standards."

A company making electrical power tools is one that has encountered the problem of such standards. Government regulations in a foreign country required that a hand-held electric tool pass a submersible test. The exporting company, not knowing that this safety standard was designed to protect a local manufacturer from foreign competition, worked unsuccessfully to make its product fully safe when submerged. When it turned out that the local manufacturer could not pass the test either,

[1]Reported as either "usually very important" or "usually somewhat important."

Exhibit 1: Considerations Affecting Export Adaptation Decisions



the standard was changed so that the sole requirement was notification to the user that the tool should not be used in the rain. The exporting company discovered the change in standards only after the local product appeared on the market with its warning label.

Exporters urge patience in dealing with foreign regulatory bodies. It is frequently difficult to obtain written information on product requirements; and when such information is received, it usually must be translated and interpreted. In an extreme case, it took two years for a company whose products are affected by noise-level regulations to determine the specific requirements that were applicable in a Far East country. It then took the company another year to determine how the noise levels would be measured (e.g., whether they were to be based on distance, operator comfort, both distance and operator comfort, or some other measurement entirely), and still another year to adjust its product to meet these requirements.

On a more positive note, it is said that foreign standards for certain products are increasingly relaxed or set at levels which are either agreed-upon international standards or, in any case, the same as those in the United States. In a few country or product situations, approval of standards by a government agency or an independent testing laboratory is optional. When selling under such conditions, one manufacturer finds that it is nevertheless helpful to have such approval "as a sales and marketing tool."

The manager of international operations for a heavy equipment manufacturer sums up some of the complexities with which his company must contend in meeting government regulations in Europe: "Local government regulations make the importation of our *standard* U.S. product impossible. In order to export, we must (1) obtain copies of all regulations in English; (2) interpret and determine changes and modifications required for our equipment; and (3) make those changes and modifications. Following that, the machines must be shipped to the testing authorities in each country for approval and certification. This process is extremely costly for U.S. manufacturers, but necessary to export. It makes it difficult to be price competitive with European manufacturers where knowledge of the requirements, and meeting them, is the norm."

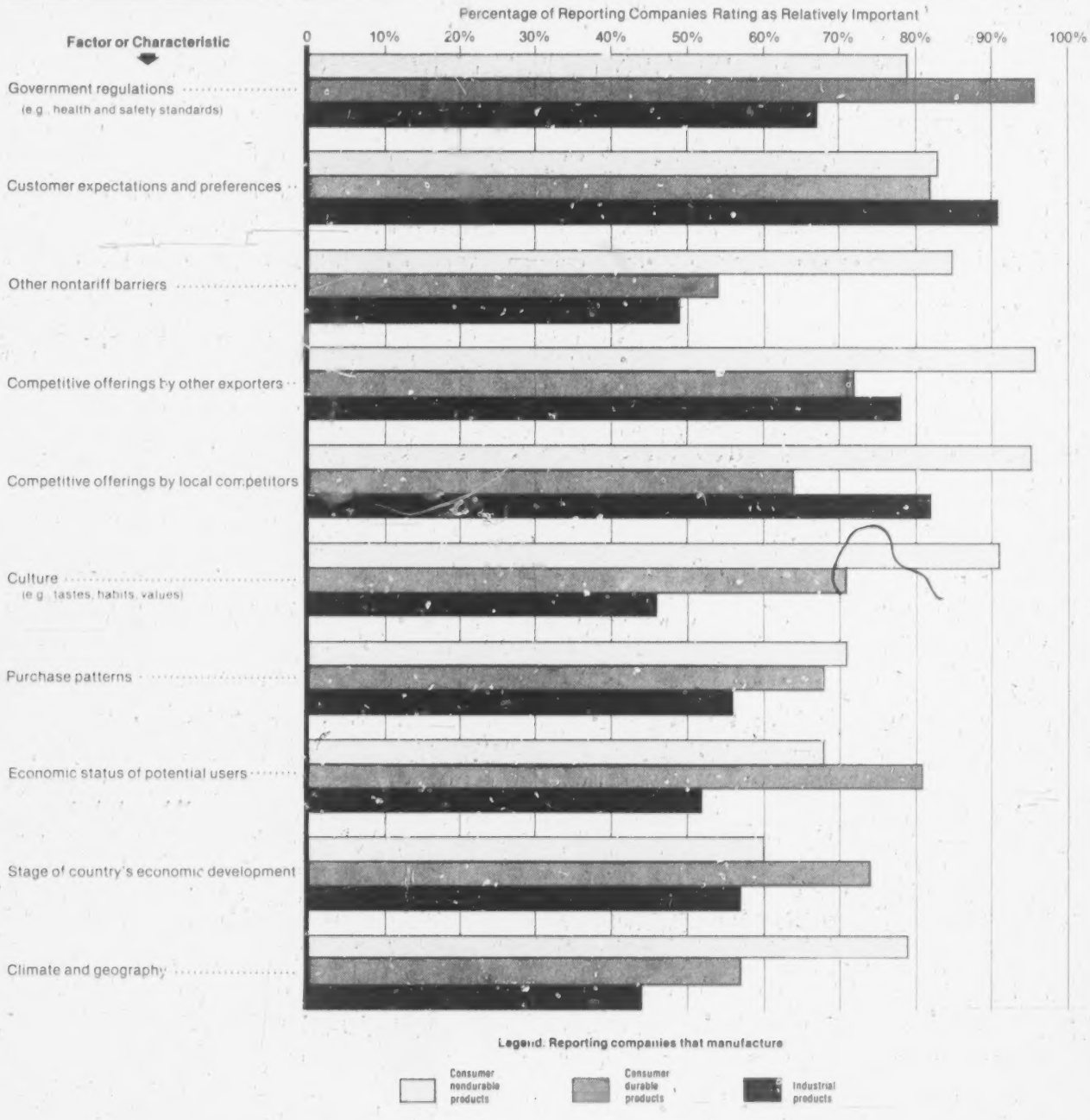
Tariffs and Taxes

The bases for imposing quotas and levying taxes on many imported products vary from country to country, both in terms of the rates applied and the methods used for classifying products subject to them. In some reported instances, manufacturers have found that a minor alteration to a product, such as removing or adding chrome ornamentation, may have the effect of reclassifying a product to a category requiring a lesser or higher duty charge.

Nontariff Barriers

There are other kinds of import restrictions that can put an imported foreign product in a disadvantageous competitive position vis-a-vis a locally produced item.

Exhibit 2: Local Factors Potentially Affecting Need to Adapt Products for Export



Note: Based on information provided by 26 manufacturers of consumer nondurable products, 31 manufacturers of consumer durable products, and 140 manufacturers of industrial products.

[1] Includes companies reporting indicated factor as being "usually very important" or "usually somewhat important" in affecting export adaptation decisions, but excludes those for which the factor is "usually of little importance," "usually not important at-all," or "usually not applicable."

These may take the form of stipulation regarding product standards; testing procedures; certification, valuation or clearance procedures; inspection methods; quota limitations; subsidies for local producers; administrative hurdles; and the like. For more than half of the companies surveyed, such nontariff barriers figure relatively importantly in their final decisions on product adaptation.

In some countries, certain product imports may even be prohibited, and exporters may need to follow alternative approaches to penetrate such markets.[2] A licensing program or a joint venture is sometimes the answer, or perhaps a mix of market-entry methods. Import restrictions are sometimes waived, however, on products that are desired by foreign governments for internal development.

Nongovernmental Regulations

Goods exported to countries that are members of regional or free trade associations—such as the European Economic Community and the Association of South East Asian Nations—are frequently subject to regulations and taxes imposed by these associations, which have been set up to accelerate development and industrialization for their member countries. Conversely, the associations often grant tariff preferences to products entering a member country that have been produced or processed within member countries or made of materials originating there. Exhibit 3 lists some of the world's major regional trade associations.

Other nongovernmental bodies having the authority to regulate matters affecting the design and other characteristics of products sold in export markets, and whose codes tend to supplement the laws of individual nations, include the United Nations, the World Health Organization, and the Organization for Economic Cooperation and Development. The hope of exporters is for greater clarity and consistency of product standards among all such regulatory bodies.

Competitive Offerings

Although some U.S. manufacturers report that they face virtually the same competitors in various markets around the world, the usual competitive mixture within a country includes both other outside exporters and local producers. Thus, the price, quality, servicing and product features being offered by varied casts of sellers of similar products—and what the company must do to match or beat these offerings—can be critical.

For example, a competitor of one firm in a certain foreign market recently introduced a machine that incorporated an oiling system to cool the materials while the machine performed its function. "We didn't have that," a spokesman for the firm reports. "We had a separate device that was manually operated." To remain competitive, the company elected to introduce for export an adapted machine with an oiling device, to be launched in the United States market about six to eight months later.

Some companies in high-technology industries seek to retain their competitive edge through advanced research and development. One, whose management believes it has the whole world from which to choose target markets for the firm's products, attempts to minimize steep competition at the planning stage. By being very selective, management first identifies countries in which the company's product might possibly be offered for sale and then screens out those where competition is judged to be unacceptably strong.

Culture

Understandably, the product decisions of consumer-product exporters are strongly influenced by judgments regarding the unique mix of behavior patterns, tastes, values, habits, attitudes, expectations, traditions and societal roles of individuals living in each country or region who are prospective buyers of such a product. These largely cultural aspects of life—reflecting a country's political, educational, religious, and other institutions—are often difficult for outsiders to discern or understand. Experienced exporters say they must keep continually in mind that they are doing business "on others' turf, by their standards, according to their customs."

Among other things, social patterns are inevitably reflected in the products people buy and the way they buy and use them. Further, the culturally "correct" interpretation of a society's aesthetic values can play an obvious part in effective product styling.

Knowledge of other features of foreign life-styles has direct application sometimes in the basic design of consumer products. For example, noting that family units in Middle East countries are much larger than in its domestic United States market, with a tendency to cook much larger quantities of food for themselves, a U.S. appliance manufacturer designed a stove with such features as a fifth burner capable of holding an oversized pot, as well as expanded broiler space large enough to broil large pieces of meat, such as a whole lamb.

Local tradition and preference can sometimes also be important in industrial buying decisions. An exporter of pipe wrenches found that selling them abroad was sometimes less a question of function than it had expected. A wrench that had always sold very well in the United States was offered for sale in Europe. Although competitively priced and easier to use than the traditional European version, it failed to gain acceptance. Investigation revealed deep-seated buyer preference for the usual European-style wrench, a preference ingrained over many generations. As reinforcement, the regular European version was also used in apprentice training schools. Rather than buck this tradition, the U.S. company decided to make a tool in the traditional European design for sale in this market.

[2]Exporters, on occasion, may also face exporting trade restrictions and prohibitions from their own domestic governments.

Exhibit 3: Major Regional Trade Associations

ANCOM:	Andean Subregional Group
	Members: Bolivia, Colombia, Ecuador, Peru, Venezuela
ASEAN:	Association of South East Asian Nations
	Members: Indonesia, Malaysia, Philippines, Singapore, Thailand
BENELUX:	Belgium-Netherlands-Luxembourg
	Members: Belgium, Netherlands, Luxembourg
CACM:	Central American Common Market
	Members: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua
CARICOM:	Caribbean Community
	Members: Antigua, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts-Nevis-Anguilla, St. Lucia, St. Vincent-Grenadines, Trinidad-Tobago *Associate Member:* Bahamas
ECOWAS:	Economic Community of West African States
	Members: Benin, Cape Verde, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo, Upper Volta
EEC:	European Economic Community (Common Market)
	Members: Belgium, Denmark, France, Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, United Kingdom
EFTA:	European Free Trade Association
	Members: Austria, Iceland, Norway, Portugal, Sweden, Switzerland *Associate Member:* Finland
LAFTA:	Latin American Free Trade Association
	Members: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay, Venezuela

Another cultural element with which virtually all export marketers must deal is language. For one thing, warranties, instructions, labels and other written items—including perhaps trademarks or brand names—may need to be translated into a foreign language. Moreover, exporters warn, it is not enough to ensure literal or verbatim translation of such items; the results must be culturally meaningful and acceptable. On occasion, brand names have to be completely changed because they may be difficult to pronounce or have an unfavorable or unfamiliar meaning in a particular area or country. For example:

- Gillette's "Swivel" razors are renamed "Slalom" for European markets because this name is more understandable there.
- Two statements familiar to most Americans are "Body by Fisher" and "Let Hertz put you in the driver's seat." But if carelessly translated, they could lose their intended meaning as well as suggesting something quite different, such as "Corpse by Fisher" and "Let Hertz make you a chauffeur."[3]
- A product sold in Southeast Asia is called "Darky"—a name no U.S. marketer could ever contemplate.

In order to meet simultaneous language requirements in more than one country or in different regions of a single country, a company's products may bear labels in

[3]Noted by Phillip R. Cateora and John M. Hess in *International Marketing*. Homewood: Richard D. Irwin, Inc., 1975.

more than one language. In some cases, such as with shipping and warning labels, exporters have found it possible to avoid the problem through the use of international symbols (e.g., skull and crossbones for poisons or an upright champagne glass to indicate which end of a package is the top).

In some industries, of course, the problem of language is even more intrinsic to the product itself. This situation is reported by several computer companies that have to adapt both the software (instructions) and the hardware (printer, keyboard, etc,) for use in a local foreign language. Additionally, it is sometimes necessary in Arab countries to have a system (encompassing both hardware and software) that is capable of producing a printout that reads from right to left. In a further adjustment, one computer company reports doing "textual analysis" in languages in which a given letter varies in shape, depending on whether it is the first, middle or final letter of a word, or a standard letter (any position other than the first, middle or final letter of the word). This kind of analysis is used, for example, with the Arabic and Korean languages. Additionally, on keyboards of computers and other types of office equipment, special symbols (e.g., acronymic, metric) are frequently required on items sold outside the United States.

Similar to translations for language are the conversions that exporting manufacturers must often make when a different system of measurement is used abroad. When converting to the metric system, for example, many firms have had to contend with the added costs resulting from retraining workers, maintaining dual inventories, modifying measuring devices, or redesigning tools and equipment.

Depending on the exported product, conversions of this kind are more easily made in some instances than in others. To illustrate:

- For a small company that normally makes nonmetric measurement instruments, purchasing one metric die can cost as much as $10,000.
- In certain highly automated industries, major conversions are said sometimes to require little more than a change in software programming.
- For some small manufacturers, faced with potential conversions that would result in nonstandard sizes, producing metrically calibrated products would be so disruptive that they prefer instead to forfeit export business that could be theirs.
- A consumer appliance manufacturer whose U.S. products use the Fahrenheit scale has had to determine likely acceptance of Fahrenheit measurements overseas—for example, whether the company should change some or all of its exported products to centigrade or instead leave them calibrated in Fahrenheit and provide foreign customers with conversion charts they could use to make the conversions themselves.

The Imperial Pint

A diversified chemical company makes large quantities of paint for the automobile industry. Although colors and shades number in the hundreds, only about 25 varieties are needed to produce this wide array. A precise weighing and mixing of colors is necessary to produce a specified paint.

A supplier of scales for this purpose has had to modify its regular products because its customer, the chemical company, exports paint to some countries, such as Canada, where the imperial pint used is approximately one-sixth larger than the standard U.S. pint. Because the base of the container for an imperial pint of paint has a larger diameter, it will not fit on the regular platform of a U.S.-made scale. The manufacturer, therefore, has had to modify the platform on its scales sold to the chemical company so that it will be large enough to accommodate the larger size.

Economic Development

When assessing a foreign market environment, management may need to take into account the stage or level of the country's economic development as it may affect the potential purchase or use of the company's products. As a general rule, for example, as the country's economy advances, buyers are more likely to want more sophisticated product versions—both consumer and nonconsumer. Thus, many companies classify foreign economies according to population growth, per capita income, degree of industrialization, urban residential concentration, or other factors highly likely to affect the purchase or use of their products. Exhibit 4 shows an economic classification system that has been used by the General Electric Company in which countries are classified as poor underdeveloped; early developing; semideveloped; developed; or Communist (which may also fit preceding classes). With this format, each stage of development includes both: (1) the broad country considerations, such as level of infrastructure, degree of industrial development, and per capita income; and (2) the narrower industry considerations of vital interest to a company selling electrical equipment, such as the usage of electricity, degree of electrification, and level of importation of electrical equipment.

Per capita income and the distribution of income are among the common measurements used in market analyses. However, aggregate national figures can conceal important variations—as between a viable urban market where many people are well off and rural areas with a large number of poor people.

Exhibit 4: A Country Classification System Based on Stages of Development—General Electric Company

•*Poor Underdeveloped:* These countries have primarily agrarian and/or extractive economies. High birth rates, along with limited infrastructures, account for the low per capita income and usage of electricity. Electrification is limited to the main population centers. Generally, basic electrical equipment is imported.

•*Early Developing:* These countries have begun initial development of an infrastructure and have infant industries—especially mining and selected "cottage" manufactures. Target economic sectors may enjoy high growth rates even though per capita income and electricity consumption are still modest. Progressively more sophisticated electrical equipment is imported, frequently to achieve forward integration of extractive industries.

•*Semideveloped:* These countries have started an accelerated expansion of infrastructure and a wide industrial diversification. Thus, per capita income and electricity consumption are growing rapidly. Increased discretionary income and electrification allow greater ownership of autos and electrical appliances among the expanding middle class. Larger quantities of high-technology equipment are imported.

•*Developed:* These countries enjoy well-developed infrastructures, high per capita income and electricity consumption, and large-scale industrial diversification. They are also characterized by low rates of population and economic growth, as well as shifts in emphasis from manufacturing to service industries—notably transportation, communication and information systems.

•*Communist:* These countries' separate listing does not imply that they represent either a higher or lower stage of economic development. They could have been distributed among each of the above four categories.

A packaged goods company, confronted with considerable disparity in income levels within the same country, adapted a deodorant product to fit two target income groups—the regular product version in an aerosol can and a less expensive one in a plastic squeeze bottle. By substituting cheaper parts and materials, manufacturers report making both consumer and industrial products more affordable in less affluent markets.

Purchase and Distribution Patterns

The potential need for modifying products reaching a country as imports may be influenced by local buyers' patterns of purchase or the means by which such products reach them—such as channels of distribution; credit policies (e.g., rebate practices, deferred payments, and return privileges); customary levels of inventory; prevailing buying habits and motives (convenience, frequency, size; timing of purchase or order, etc.); and the like. The following illustrate situations sometimes encountered:

•Cumbersome, multilevel distribution systems may escalate the costs incurred between the time of a product's arrival in a country and the time it reaches the customer, and thus eliminate profits hoped for through adaptation.

•Routine purchases or order sizes in foreign markets for some products may be extremely small as compared with those in the home country. Such is the reported situation in some markets, for example, for cigarettes, razor blades, and nails. Conversely, there may be cases where larger single-purchase quantities are demanded in some foreign markets than at home.

Climate and Geography

Certain domestic products destined for export markets must be modified to allow for such factors as extremes in temperature, humidity or altitude. Allowance may also be necessary for differing quality of resources—such as water—that will be used in conjunction with an exported product.

Among the products commonly cited as being modified for climatic reasons are engines (for humidity and altitude); electric cooking devices (for humidity); oil refinery controls (for insulation against the cold of Canada and the heat of Saudi Arabia); and various measuring instruments (with tolerance levels changed in order to maintain their accuracy under extreme temperatures).

Inherent Characteristics of the Product

Still other considerations that often help to determine whether modification of a domestic product may be beneficial or even essential for its successful export sale pertain to key features or characteristics of the product itself. (In some cases, a particular characteristic of the product—such as its durability—is critical in relation to one or more of the market factors already cited—such as the local climate.)

Those product characteristics most often reported to be potentially important in management's evaluation of export adaptation requirements are cited in Exhibit 5.

Functions and Attributes

Although every established product has one or more basic functions or applications that have proved to be a reasonable match for the needs and realities of the home market, this mix may not have equal validity when the item is sold for use in the context of a foreign market. On the other hand, a product previously designed for one specific use in the home market may be found to have other uses when exported. Thus, the same product one exporter sells domestically in the United States as a snowplow also clears mudslides in Australia and sand from driveways in Saudi Arabia.

Furthermore, some products may be expected to perform additional functions overseas beyond those required in all home markets. For example, in some countries where running hot water is not readily available for use with a product for which this is a prerequisite, the heating of water may become an additional function of the product itself. Some U.S. plumbing fixtures are redesigned for export to enable them to heat water in the faucet. Similarly, apart from their primary function, some clothes washing machines, when sold abroad, incorporate a device for warming cold water.

Method of Operation

Yet another possibility is that operating methods and capabilities applicable in a product's use in the domestic market may be somewhat, or even totally, unsuited for the usage situation found in a foreign market. For example, individuals who might be expected to operate the product in certain countries may often lack the education that is required to use the domestic version.

Modifying items for export is a common problem for manufacturers of electrical equipment because power sources available in a geographic area must be affordable and compatible with their products. For example, a product may require altering to make it compatible with the foreign area's (1) electrical current (e.g., 50-cycle hertz in such countries as Argentina and Australia as compared with the 60-cycle hertz used in the United States); or (2) voltage (e.g., 220 volts in such countries as the Philippines and South Africa, as compared with the 120 volts used in the United States). A few countries, such as Brazil, have multiple ratings in different sections (e.g., 50 and 60 cycle hertz; 110 and 220 volts).[4] In addition, electrical plugs, wiring, power cords, and the like may also require modification to conform to local requirements overseas.[5] In some situations, electrical standards are spelled out in local government regulations; but in others, exporters must determine for themselves the adjustments that are required.

Quality

Where there is a willingness and leeway to lower or raise performance or other standards according to market need, the question generally becomes: "How much quality is enough?" In many cases, say some exporters, they can upgrade a product "but the market won't pay for that kind of quality." Of course, quality is often a function of both utility and buyer perception—how much quality is required and how much quality the buyer wants, recognizes and is willing to pay for.

While at least some affluent customers in a foreign market will often pay for extra quality that is not really needed, such extra cost can be a disadvantage in some markets. As a matter of both strategy and policy, however, not all manufacturers are inclined to offer less-expensive, lower quality versions of their products to foreign buyers. Some explain that the reputations of their products have been built on a standardized quality image and, as one executive states: "Quality is not negotiable."

In an inhospitable—or at least, different—foreign market environment, some manufacturers' products are more prone to attacks from rust, corrosion, fungus, mildew or other forces affecting durability or shelf life than they would be when distributed and sold in domestic markets. Exporters' reported actions to ward off such deterioration include:

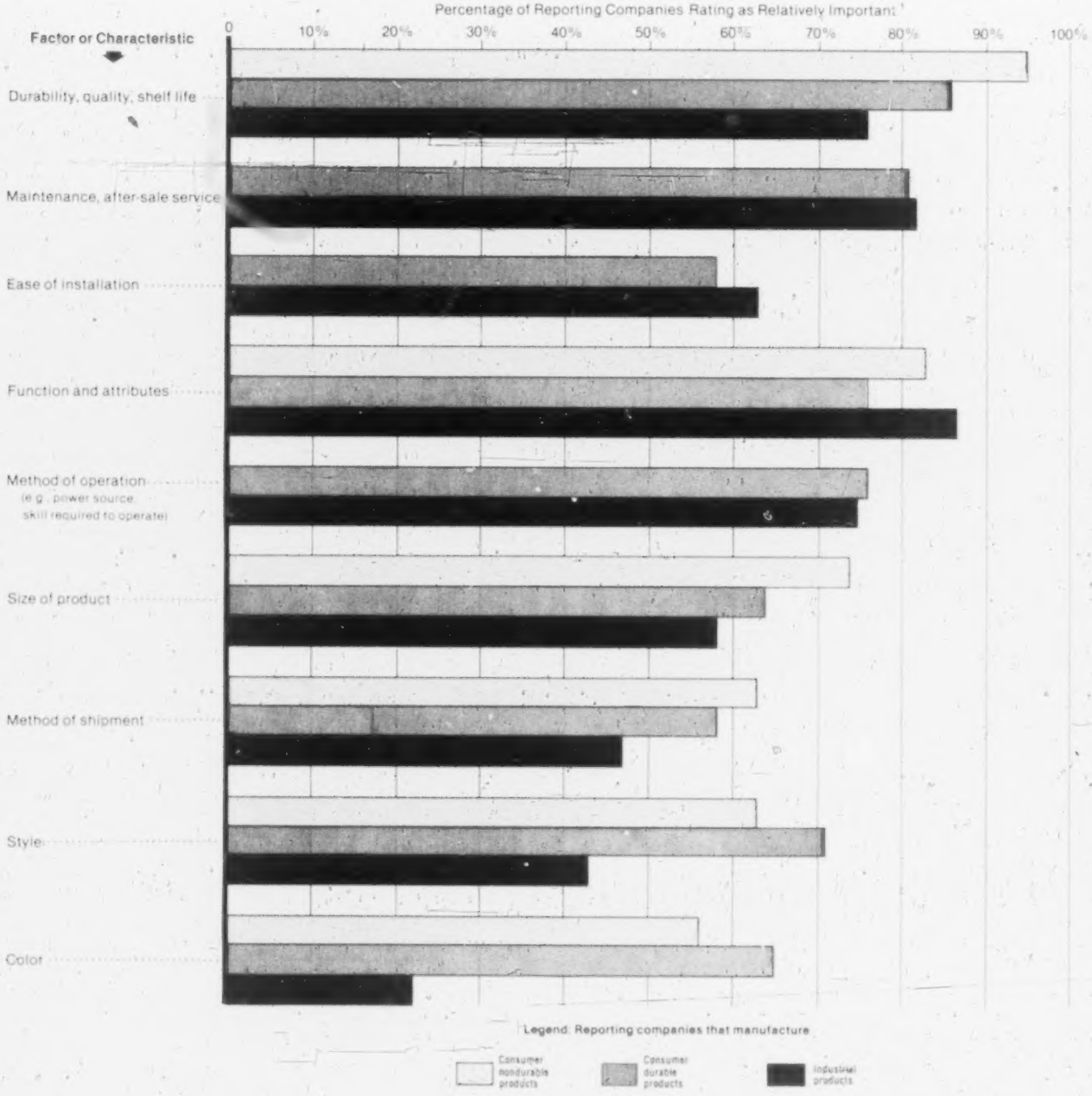
- Treating durable equipment with protective coatings;
- Prolonging the shelf life of nutritional products—in one case by exporting them in powder rather than liquid form to countries where product turnover may be slower or good storage capabilities lacking;
- Developing processing techniques to create food-product versions that do not need refrigeration.

When equipment designed for light, infrequent duty in the domestic market is then exported to a market where it will be expected to withstand heavy, frequent use, it may be perceived as being of poor quality when it proves subject to later breakdowns and malfunctioning. The possibility of exported products being used beyond the intended quality design or performance range of the manufacturer creates a need, in the words of one exporter, "to differentiate between what is perceived by the customer and what actually exists in terms of life-cycle failures."

[4]For a detailed listing, by country and city, see *Electric Current Abroad*, a 1975 publication of the U.S. Department of Commerce.

[5]There are hundreds of different plugs and sockets used around the world; as many as 20 different types can be found in one country alone.

Exhibit 5: Product Characteristics Potentially Affecting Need to Adapt Products for Export



Note: Based on information provided by 26 manufacturers of consumer nondurable products, 31 manufacturers of consumer durable products, and 140 manufacturers of industrial products.

[1] Includes companies reporting indicated characteristic as being "usually very important" or "usually somewhat important" in affecting export adaptation decisions, but excludes those for which this product characteristic is "usually of little importance," "usually not important at all," or "usually not applicable."

However, in those cases where a manufacturer can adjust the quality or durability of a product to meet varying quality requirements of different markets, actually doing so may cause problems with the quality-control system in an assembly line geared to quality standards and requirements of the domestic market.

Whatever the difficulties, many reporting executives believe it to be a mistake—in their product areas, at least—to aim for anything but the high-quality end of the export market. At a recent Conference Board meeting, Richard A. Leonard, head of international commercial development for Hercules, Incorporated, offered this advice to U.S. exporters: "Make sure you go for quality and service. The Japanese have learned that both pay. You may remember the day when 'made in Japan' meant junk—but that's long past. It's hard to remember now that the Toyota has not been in the United States forever. But I well remember being introduced to them in Japan in the mid-1960's and (since Americans living there were so impressed with their features) asking Toyota managers: 'Why don't you export?' The answer was: 'We're not ready—there are still a few bugs to work out—export quality must be the best!' "

Product Service

Facilities and trained personnel to provide backup service can be critical for sale, installation, maintenance, repair and use of some product items. However, service networks that a manufacturer has developed for domestic markets may be too costly to justify abroad. While some firms are able to rely on distributors and other third parties to provide the necessary support, there are other cases where only the manufacturer's personnel are in a position to provide the needed parts and repairs. Some have found it possible to offer speedy long-distance service support on expensive equipment sold for export. With other items or in other kinds of product situations, however, a company may elect to simplify the standard product version to assure easier maintenance and servicing locally within the foreign market.

Appearance

Adjustments in product styling, color, size or other appearance features are more common in catering to exports for consumers than to industrial markets. But examples of both abound:

- Small office copiers with big copier features have proved to be especially popular in space-conscious Japan;
- U.S. furniture manufacturers make shorter beds for use in certain countries of the world;
- Some equipment manufacturers make shorter shafts on fixed-position products for use in countries where people are often of shorter stature;
- Because of smaller land-plot sizes in European markets, a manufacturer of power lawn mowers produces smaller machines to meet these requirements;
- Some U.S. appliance makers find it worthwhile to adapt their products to fit smaller kitchens and laundry rooms of such diverse markets as Hong Kong, Germany and the United Kingdom.

Product styling and perceived aesthetic appeal are sometimes linked to the "nationality" of the product—as with French perfume, American jeans, Italian leathergoods, and so on. When a U.S.-styled product is considered "with it" or "in" and valued for status, the exporter may elect to sell it abroad without alteration—as authentically American. (One company reports that it is unable to manufacture one of its major products in overseas plants, even though it would be identical to the U.S. version, because the market would then reject it as not being a "bona fide U.S." product.)

Design changes in machinery and equipment are sometimes made to improve performance under local conditions, to adjust for local user preferences, and so on. Also, some are made to satisfy what they call "ergonomics"—the linking of machine requirements and the creature-comfort requirements of the users.

For food, beverage, tobacco, toothpaste and medicinal items, taste—for example, sweetness, sourness, bitterness, saltiness—is usually a critical factor for consideration. As the head of one major food company has put it: "All business is local in the ultimate analysis, and so we adapt our product to local needs and tastes."[6]

In some markets, exporters of consumer items are able to capitalize on preferences for certain colors—as for bright colors in South America. Preferences for or against given colors are sometimes linked to local customs, beliefs and taboos. For example, red is considered a lucky color for the Chinese; while in many societies, white is the color of death and mourning. This fact proved costly to a manufacturer of medical systems that lost a large order for CAT (Computed Axial Tomography) scanners in a Mideastern country, only to learn later that their whiteness was the reason.

Seeking to turn color preferences around the world to its advantage, a manufacturer of heavy construction equipment hired a consultant to determine colors that would be acceptable in all its foreign markets. Based on these recommendations, one color was selected for use with all the firm's products. These are now easily recognized by their distinctive color and give the company added visibility worldwide with a "family" of products.

[6]James R. Elsner, President and Chief Operating Officer, CPC International Inc. before the Los Angeles Society of Financial Analysts on February 18, 1980.

Support Adjustment

Apart from any need for modifying their products, many manufacturing companies find it necessary to alter the instruction materials, packaging or other related elements for items destined for export sale. More than half of the companies surveyed report that product use and care instructions must usually be translated into local languages of non-English-speaking countries. This practice is slightly more prevalent among producers of consumer goods than of industrial goods. The standardized materials included with some products contain the same instructions in several languages, so that the same materials can be used in multiple markets.

Local regulations sometimes make it necessary to change the normal message content as well as the language on product instructions or package labels. For example, the consumer package labeling on some liquids within certain European destinations must give the name and address of someone who could be contacted locally for medical help if the product were drunk by accident. In other cases, additional information or more simplified instructions must accompany shipments in order to prevent a product's misuse.

Four out of ten adapting companies report that their packaging arrangements must usually be changed substantially for export purposes. Aside from the frequent need for special packaging itself, adjustments in language, message content, and design are common. In the case of some consumer items, such as certain foods and proprietary drugs, these changes result in products substantially different in appearance from their domestic counterparts. Still other kinds of adjustments often required in export marketing are for advertising, sales and promotional materials, warranties, servicing instructions, and the like.

Method of Shipment

A product's physical distribution in international markets often requires more attention and is more costly than in its home market. One reason may be the exporter's need to assure adequate protection of the product on its way to foreign users. Export shipping costs frequently include not only those for the carrier, insurance and other related services, but also the expense of special packaging and crating. In anticipation of potentially rougher treatment or more handling, boxes may have to be stronger than for domestic shipments. Thus one equipment producer, whose domestic shipments are often made in cardboard boxes, packs most of its international items in wirebound boxes, which, in turn, are housed in larger containers to reach the firm's overseas warehouses and sales operations.

While such additional packaging protection is initiated in some cases by the manufacturer, in others it is a requirement set forth by the purchaser; and not all such requirements are judged to be reasonable. One export company executive complains that although the firm has been shipping products overseas for years without abnormal damage, some foreign customers are unwilling to accept its regular packaging standards. Their insistence on *special* packaging is judged to be excessive in creating unnecessary costs for the firm and an unjustified reduction in its margin of profit.

Products with a limited shelf life pose particular problems if they are to reach the foreign users in good condition. The solution of some food processors has been to rely on airtight, reclosable containers for export shipments that are impervious to moisture and other contaminants, and that also extend product life.

A system of preventive "test shipping" has been found to be effective for a computer company that arranges to ship equipment experimentally to each new foreign market. Once there, it is tested, stripped down, reassembled, retested and finally shipped back to the United States. By such advance monitoring, the company is able to ensure that customers in the new market will receive its products in good condition.

One purpose of special packaging for overseas shipments is to give protection against potential damage from normal handling en route. Another is to protect against theft or pilferage. Some manufacturers, whose well-known branded products are especially tempting targets, have cut their theft losses by omitting company trademark and trade-name identification on the outside of shipping boxes, replacing them with shipping-code marks and numbers instead.

One thing that exporting companies do try to make visible is any set of special instructions for the handling of their shipments. For example, it is important for a manufacturer of construction equipment that some of its equipment be "heavy lifted" onto a ship. In such cases, heavy hooks and loading instructions are securely and visibly positioned on the product for the benefit of loading crews. As a spokesman explains: "If they swing the crane to lift it from the pier to the ship, they will know how to pick it up and where. Loading instructions are in English, but they are also pictured so that there is not much of a problem with non-English-speaking people."

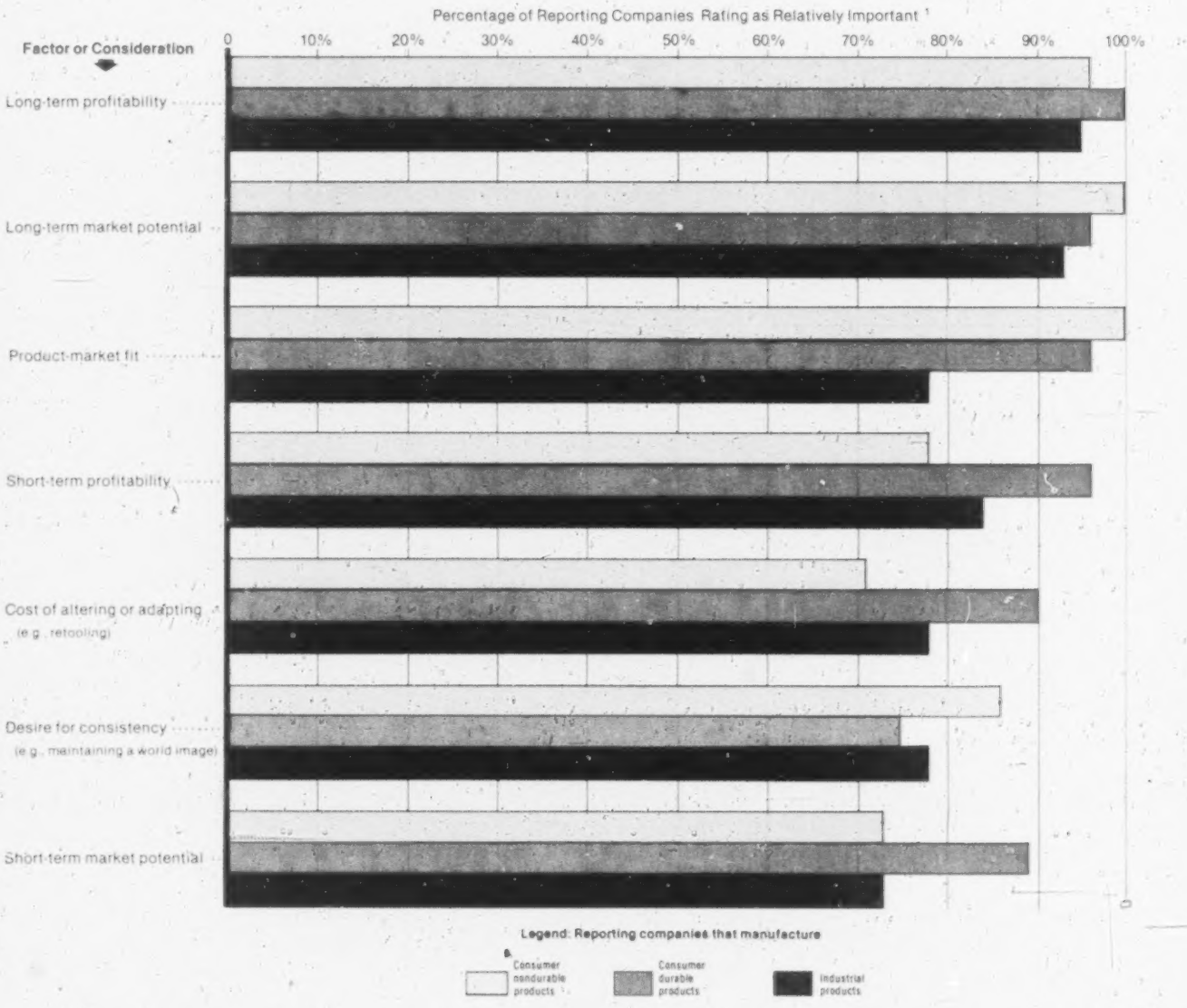
Inherent Characteristics of the Company

Very often certain other factors exist within the company itself that influence the need, or possibility, for

modifying its products for export sale. These frequently include the nature of the export market requirements as perceived by those with the authority to take action; the expected profits obtainable from the product in question, with and without modification; the likely costs and results of modifying the product to advantage in some way; and long-standing company policies and preferences, including the relative importance accorded product consistency in diverse markets. (See Exhibit 6.)

For any management considering the possibility of modifying a product to facilitate its sale in an export market, the short-term profit consequences are of natural interest. However, exporters generally tend to be more concerned about the longer term results of such action. As one executive explains: "You may accept lower profitability in a certain period of time and in a certain market if you can see it becoming profitable in the future." Thus, while some managements insist on seeing

Exhibit 6: Company Considerations Potentially Affecting Need to Adapt Products for Export



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[1] Includes companies reporting indicated company consideration as being "usually very important" or "usually somewhat important" in affecting export adaptation decisions, but excludes those for which this consideration is "usually of little importance," "usually not important at all," or "usually not applicable."

profits from export sales in a matter of months, others are willing to wait for a much longer time. Says one executive: "We're not looking for a bonanza; we want to lay the proper groundwork and be there when the market matures."

Another executive, in charge of international operations at a large multinational corporation, reports that his company, which always expects to see profits within a "reasonable amount of time," places special emphasis on the expected long-term return on investment. As a rule of thumb, this means that "something must come back to the company within five years."

Market Potential and Profitability

Since prospective markets have to be sufficiently large and profitable to make the cost of the product adaptation worthwhile, it is not uncommon for managements to decide that adaptation measures in a particular case cannot be justified. Sometimes such justification becomes possible only when it is shown that sales in several geographic markets would benefit from the action.

Significantly, six out of ten reporting companies that modify domestic products for export sale maintain separate cost records and analyses on such altered products—sometimes as part of their regular cost-accounting activities and often in economic justification of modification proposals. Such justification in many cases requires the meeting of a specified target percentage of market share or return on investment (ROI). A consumer goods manufacturer, for example, adapts products for market entry only if it can reasonably expect to capture 10 percent or more of the total market as a result. Some managements however, allow ROI targets to fluctuate among various country projects to allow for local market conditions. Understandably, managements seek to avoid spreading their companies' resources too thin—by covering too many markets, offering too many product variations, and the like.

One way that exporters try to minimize the risks of adaptation is through advance analysis of market need and potential. More than half of the companies surveyed that are potential adapters of products for export report that they sometimes conduct formal marketing research studies in conjunction with adaptation decisions.

Product-Market Fit

How well the company's product offering matches export market need—or could match that need, with some modification—is a critical consideration. Three different approaches are discernible among the exporting firms surveyed:

(1) *Product first, market second:* After identifying the product to be offered for export, the company then evaluates prospective markets for the product and the implications for making it.

(2) *Market first, product second:* The company identifies potential target markets and then determines which of its products could be profitably offered for sale in those markets, with or without adaptation. (For some firms, products requiring adaptation are quickly set aside: "We don't sell in countries where adaptation is a problem.")

(3) *Early-stage coordination of product design and market requirements:* At the design stage, the company tries to determine what would need to be done to the product in order to sell it both domestically and in international markets A,B,C.

Cost of Altering or Adapting

When some kind of adaptation of a product is either possible or required for its export sale, a key issue usually is: "Can we do it and still remain competitive?" In some cases, of course, the prime issue may be: "Can we *not* do it and still remain competitive?" Typically, as the international vice president of marketing for one manufacturer reports, the situation calls for "an assessment on our part as to the value of the market segment to us compared with the costs involved in modifying our products."

An indication of what expenses can be in complying with government regulations is evidenced in the case of Mack International, the export arm of MACK TRUCK, INC.: "A typical European engine certification runs from $10,000 to $25,000. Brake system changes to conform with other country's regulations run from

Product Life Cycles

For some products, manufacturers have been able to extend the life of items sold in their domestic markets by exporting them to foreign markets in which the demand for such products is at an earlier life-cycle stage. But seldom are matters so simple.

Not only are life cycles shortening in many product areas, but the potential gaps—both technological and "time"—between key geographic markets are often much narrower than in the past. Thus, even in less-affluent or less-developed countries, commercial users may not settle for earlier generations of products for which productivity or cost-savings benefits fall short of current offerings. Commenting on such preference for "state-of-the-art" items, one executive states: "It is very rare that we could now push mature technology to any country in the world."

$1,500 to $2,500 per vehicle. Electrical system changes will run from $2,000 to $3,000 per vehicle. Wheel equipment changes will run from $500 to $1,000 per vehicle." Even with these outlays and a higher price tag per vehicle compared with the foreign competition, the company is still able to compete successfully in the world marketplace.

In situations where a major modification investment must be absorbed by an industrial operating unit in a multidivision company, such an expense can sometimes jeopardize short-term results. Under these circumstances, an argument can be made in favor of having the corporation itself underwrite such major expenditures. For further discussion of this subject, see page 21.

Desire for Consistency

In the interest of maintaining a "family of products," image consistency becomes both a policy and procedural consideration for some companies, particularly manufacturers of consumer products. Under these circumstances, adapted products will usually retain certain recognizable characteristics in conformity with the firm's other products (e.g., with respect to packaging, shape, color and other design features).

A more common concern of management, however, is to have modified items fit harmoniously within the company's product line with regard to such things as quality, price, and user perceptions. Independent committees or corporate units are sometimes established whose primary function is to ensure such uniformity.

Oftentimes, too, product "consistency" facilitates control over some of the costs associated with adapting products for export. Common components within related product lines may yield economies of scale and ease of repair and servicing. Thus, a few companies endeavor, wherever possible, to design "global products" with any specialized adaptation features that are judged to be essential incorporated into a single item capable of serving customers in many different markets.

Chapter 3
Product Adaptation Decisions

MORE than most company activities, successful export programs for many products require close cooperation and communications among the various and often dispersed functions sharing responsibility for them. Even in companies where this is not the case, any question of whether—or how—domestic product offerings should be modified to enhance their prospects for export calls for a considerable pooling of specialized information and judgment.

Nevertheless, a majority of the companies surveyed deal with such adaptation issues simply on an ad hoc basis. Only four in ten have established formal policies and procedures for this purpose. One explanation for many is that relatively few of their products require modification for export, or else that the cost of making such modifications is, for them, seldom a major one. Thus, according to half the companies reporting, few products they sell require substantial alteration for sale beyond their domestic market. Moreover, the potential expense of making alterations is described as usually being "moderate" for six companies in ten, and "negligible" for another two in ten.

The concern of management, of course, is that modifications of products for export be justified in terms of potential sales and contribution to profit. When formal procedures are adopted for proposing, evaluating and approving of potential product adaptations for export, these are very often similar or actually identical to those required for dealing with proposals involving new products being considered for domestic sale. Also, in both situations the same kinds of people and units in the company usually contribute to the appraisals of feasibility and desirability, and to the ultimate decision making.

Functional Units Involved

Those departments most likely to be consulted directly regarding possible product adaptation are reported to be the international unit (if there is one), manufacturing, engineering, and marketing (including the head of sales operations). Other functions often consulted include the R&D, financial and legal departments.[1]

There is frequently considerable overlap or blurring of activities relating to modification of products for export. Cost considerations are often judged so important that several concerned functions will participate in preparing estimates. Certain combinations of activities, however, are commonly associated with each function. The marketing unit, for example, is generally the one that initiates sales forecasts, profitability analyses, and required marketing research studies. The marketing unit is also frequently designated as the contact point when work is being coordinated with outside consultants or export management companies.

In several of the exporting companies surveyed, product managers have international responsibilities in addition to their traditional domestic roles, including some that relate to export adaptation. Thus, the product managers of one large equipment company work routinely with the engineering, manufacturing and marketing departments, in developing product specifications; and in cases involving adaptation for export, they work as well with members of the international and marketing staffs at the group level in (1) evaluating the cost and feasibility of making such modifications, and (2) forecasting how many adapted units can be sold at different price levels. Once it is determined that a modified product can be built and sold at a profit, a formal proposal to do so is submitted for final approval to the company's product committee.

At a diversified consumer manufacturing company, product-geographic specialists within the business development unit of the marketing department wear two organizational hats. In a role similar to that of a product manager, they also have added responsibility for assigned

[1]The purchasing unit is usually consulted as well when the modification of the product for export will require outside purchases.

Adaptation Reviews in a Moderate-Sized Company

Exports account for one-fourth of the annual sales of a privately held equipment company. Proposals for products to be adapted for export sale are submitted to the company's Product Review Board, which also reviews domestic new-product projects. Because of the company's moderate size and the close working relations of its key executives, the activities of the review group can be kept relatively informal.

The vice president of international sales usually initiates adaptation proposals, but anyone in the company can do so. The Product Review Board consists of representatives from manufacturing, design engineering, finance, administration and marketing. Also participating is the person making an adaptation proposal, and this individual has access to everyone in the company while gathering facts and figures to justify the product adaptation.

Economic justification for a product's modification rests principally on the expected volume of business that will result if the product is altered in such a way as to make it suitable for overseas sale. In some cases the argument runs: "If you do this, you will get *X* amount of business in a particular country (or area); and if you don't do it, you won't sell anything at all!"

Information used to justify modification includes the projected sales volume, the nature of deviation required from the basic domestic product, a comparison of the cost of the standard product against that of the adapted product (including costs for parts or add-ons that may have to be purchased), and so on. In practice, very little of this is committed to writing. Presentations to the Product Review Board are oral, although minutes are taken at the meetings.

Sometimes during the course of gathering and evaluating data for the economic justification of a proposal, the vice president of international sales will make the decision himself that the proposal lacks merit. In that case, it never reaches the board. When adaptation in the past has been judged not to be a viable option, this has usually been because the market was not large enough to support the outlays required for adaptation.

international areas. The assigned markets are not necessarily contiguous—for example, one might include both Western Europe and Australia. The specialists provide such information as may be needed for evaluating product-adaptation issues, but all final decisions are made by divisional general managers or by the country managers for the markets in question.

A company's engineering department generally contributes to product adaptation, by answering questions relating to:

- Design requirements;
- Probable engineering costs of adaptation;
- Feasibility;
- Alternatives.

Because many product modifications are initiated in response to mandatory regulations of foreign governments, management, of course, needs to know well ahead of time what these regulations are and whether or not the required modifications are technically possible for the company. Frequently, the responsibility for making this determination falls also to the engineering department. Some large multinational companies maintain engineering staffs in their major foreign markets which can be called upon for this purpose. Others rely instead on a centralized engineering function that acts as a clearing house and control point for identifying, interpreting and implementing the various technical actions relating to product adaptation. One company has created the position of international engineer to facilitate such support. Although based at the company's U.S. headquarters, he travels around the globe to determine adaptation requirements applicable to any of its products.

The implications of product adaptation of primary concern to the manufacturing function, apart from those of production costs, include potential economies of scale; sourcing; material and labor needs; production scheduling; and quality control. An obvious worry is that introducing too many modifications into a product—sometimes referred to as "bandaiding"— will compromise its effectiveness and end up being very costly.[2] Responsibility for quality control is often decentralized to the division level, or is sometimes shared with a centralized staff at corporate headquarters. For example, each operating division in one diversified company has control over the engineering and design of its products, but final approval with regard to certain quality standards is required from headquarters for all products, regardless of where they are to be manufactured or sold.

Similarly, product quality in a large consumer products company is ensured through a combination of centralization and decentralization of control and authority. While it is company policy that "no formula can be marketed without being approved from headquarters," both international acceptance and quality considerations are taken into account at the geographically dispersed manufacturing plants. Directors of technology and development from the company's international division attend to both international and technical aspects of the products being manufactured at the plant to which they are assigned.

[2]Band-Aid is a trademark of Johnson & Johnson.

Special Funds for Modification and Export Development?

Arrangements within companies for the funding of major modifications of existing products for sale in export markets are often similar to those established for the funding of new-product development. Further, the arguments sometimes advanced for corporate support of R&D in major new-product ventures undertaken by a company's operating divisions have equal validity for major or potentially risky export ventures from which the company as a whole stands to benefit.

The prospect of possible costly delays and product modifications may even inhibit domestic divisions already reluctant to engage actively in exporting. Such was the case at one diversified company, when the practice of some foreign prospects in testing and retesting products beyond that normally expected in the domestic market resulted in concern over costs incurred before hoped-for business could be secured. In one instance, six months passed after one of the company's divisions sent a Japanese automaker a prototype of a manual transmission it hoped to supply for a new line of sports cars, and yet the two parties still had not agreed on appropriate testing standards. At that point, the executive in charge of the U.S. company's international operations held to his conviction that the firm's reputation for product quality would eventually swing the Japanese decision in its favor. Meanwhile, in his view, the selling division should be willing to absorb an initial short-term loss in the hope of winning the business.

But reaction to the situation in the vendor's product division back in the States was one of waning enthusiasm. Its management, which had been fighting tight budget constraints, was reluctant to stay geared up for potential business that, from all appearances, was going to be "risky" and subject to long delays. The Japanese testing was judged to be excessive, and the growing stalemate seemed a waste of time and money. A prime concern was that the division would have to absorb the cost of any further development and adaptation work on the transmission—and with no assurance that this would pay off in substantial future orders.

In time, the division won this particular contract, which helped to restore export interest and commitment on the part of its management. But such success has not always been the outcome—for this division or for others in the company. In a similar case involving hydraulic parts for agricultural equipment, there were again long testing delays and resulting management annoyance. The foreign customer, unlike typical U.S. counterparts, insisted on making all its own verifications, such as checking the number of threads on a particular part to ensure adherence to specifications. The result, after two and one-half years, was a minimal order of $12,000, which was not nearly enough to cover expenses incurred by the operating division involved.

In the aftermath, the company's international operations head acknowledges that situations like these can place unfair burdens on decentralized product departments. "Asking divisions to do things beyond their budgets," he says, "results in their obvious reluctance to participate." He is one who favors establishing some kind of reserve at the corporate level to cover such situations. Rather than having the total expense for such work absorbed entirely by a division, this would mean setting aside R&D funds (similar to those for new-product ventures) to be used when divisional development or modification work undertaken for export involves exceptional risks or very promising benefits for the company as a whole.

A few companies, especially large chemical firms, have product stewardship programs concerned with the safety and effective use of products from the time of their conception to ultimate disposal. Product stewardship managers are usually free to cross geographic jurisdictions within the company, as well as functional or organizational lines. While global adaptation considerations are not necessarily a pressing concern for these managers, it is usually their responsibility to see that the company's products meet both its own and governmental standards.[3]

[3]See "Product Stewardship Managers," AMA Forum, *Management Review*, October 1981, p. 29.

The process of monitoring possible needs for adapting products for export and responding effectively to those needs may be especially facilitated in companies where there is close linkage between the international unit and the export sales operation. The executive in charge of international coordination for an operating group, or the company as a whole, is often able to bring a special perspective and insight to the problems of selling abroad and to opportunities for modifying standard products to ensure such sales. Managers in self-contained domestic units, for example, may be unwilling to take actions that appear risky, or may lack access to good advice from personnel fully attuned to the export market.

The manager of international operations for one

manufacturing company reports that his role in integrating domestic and international concerns was strengthened when his international unit was moved and located physically near that of the marketing staff. As a result, he was able to work more closely with them on a day-to-day basis in evaluating market prospects in different foreign areas and various possibilities for product modification. In time, export markets were identified that have greater potential for the company than the domestic market. In another firm, a centralized international unit acts as a clearing house for the exchange of information among autonomous company divisions, thus helping them to learn about export market opportunities, including those best met through modifications of domestic products.

Coordination and Conflict Resolution

"Any executive who is trying to keep his business on course knows that among his most difficult problems is resolving differences of opinion within the organization without suppressing originality and independence."[4] Such disagreements are not uncommon in evaluating or carrying out product modifications for export, because so many different functional units and interests are usually involved.

In implementing their adaptation procedures, several reporting companies make use of special committees to provide effective coordination and communication and to reduce friction among the interested parties. Often the membership of such a committee includes the same key individuals from the same diverse functions contributing to the evaluation process. Often, too, that membership is the same as that for coordinating and monitoring progress on the company's new-product programs.

Other reported remedies range from ad hoc compromise and negotiation to designating one individual or function as always having "the last word." Common friction points are between functions, such as marketing and engineering, or between domestic and international interests. The sales department is sometimes criticized for being too eager to offer an adapted product for sale in the export market before the engineering department considers it to be ready. Engineering, on the other hand, may be accused of "over-designing" the product or "testing it to death." Such issues are generally negotiated in time—although, as one executive reports, "sometimes not very gracefully."

Reporting on his experience in this regard, the executive responsible for international operations in another firm explains: "If we should reach an impasse on current products between manufacturing and myself, or domestic marketing and myself, then we each present our case to the general manager and he makes a determination. Normally, it is a very cooperative group. On my side of the fence, I do not want to impose anything on a standard machine that penalizes our position in the domestic market. On the other hand, I think that we should have items available that are designed and manufactured to sell in the international markets. As long as we have approached it that way, we have not had much of a problem."

Adaptation Approval as Part of Product Planning

The executive management committee of an equipment manufacturer, consisting of its key department heads, makes the final decisions on major product modifications for export. Other lesser modification decisions are made along the way as part of the regular product-planning cycle during which international sales managers in each division prepare their sales plans.

The product-planning cycle consists of five stages, with export adaptation considerations taken into account mainly during the second stage. At the end of each phase, approval of the executive management committee is required before moving on to the next stage or expenditure of any additional money on product development. The four stages of the cycle are:

(1) *Feasibility:* The basic question for the company at this point is "Can we sell it?" Among other things, estimates are made of the price and expected sales for products proposed for modification.

(2) *Design:* If the executive management committee gives a go-ahead signal, the planners now spell out the required product specifications, the projected costs and return on investment. Representatives of the various departments concerned with product development (marketing, manufacturing, engineering, international and purchasing) now meet to discuss any necessary adaptations to be made. The team prepares a formal written plan and decides what the specifications for the modified product will be. For example, if the international team member has identified a need for product adaptation that is required by new foreign regulations, the engineers must develop a design that meets this purpose.

(3) *Development:* Prototypes of modified products are built and their performance is analyzed.

(4) *Introduction:* The modified product is now offered for sale.

[4] "Holding The Reins on Discord," *Interaction*, Organizational Behavior Institute, Inc., June 16, 1981, p. 2.

To clarify differing viewpoints and concerns with respect to adaptation issues, some manufacturing companies call for separate, simultaneous investigations by different functional departments. One, for example, asks the marketing department to study the market issues and the engineering department, the costs. Both studies are brought together before a committee consisting of the senior officers of the company for a final determination of what should or should not be done.

An alternative is to give overall coordinating responsibility for adaptation to a single function. For example, in a company whose management considers it to be "marketing driven," all other functions are expected to yield to marketing decisions on product-adaptation issues. According to the company's export manager: "Marketing is expected to tell everybody else what to do, to define the criteria necessary to design, build and sell whatever it is, and to give the reasons why. If manufacturing wants to make a change in a product that is going to affect any of those factors, they have to come to us in marketing and say: 'Here's what we'd like to change, and here are our reasons.' "

The thorniest conflicts between domestic and international interests often center around issues of market size. Plans for domestic production and inventory tend to be geared to demands of the company's primary market—usually the domestic one. So when a compromise is struck for purposes of export modification, as one executive notes: "A lot of that compromise is based on who is going to buy the most, and what market has the greater potential."

Other executives point out that an ethnocentric view of the domestic market can have unfavorable results in capitalizing on export opportunities. Thus, possible adaptations of products for export may not be made because these would interrupt production for the domestic market, or because the production runs would be relatively small. Similarly, changes in a product's design, materials and the like for sale in the domestic market, for whatever valid reasons, may jeopardize the product's sale or make it less suited for use in foreign markets.

Example: A consumer durables manufacturer has certain restrictive policies affecting exports. First is a policy requiring that production runs meet minimum standards. Second, the modification of a standard U.S. product in any way—perhaps by altering just one part or its color—requires reclassifying the product as a new model. Third, the inventories for any such export models become the sole responsibility of the international operations unit.

As a consequence, if the international unit wanted a nonstandard, red version of a product for export sale, it would have to submit a separate order for such a run, and then assume responsibility for resulting red-product inventory. In order to meet minimum volume requirements in such a case, the executive responsible for international sales then has to find five, six or more distributors who want to buy red items, with the possible result that "soon the international operation is selling what the factory is making, rather than selling what the customer wants."

Example: In the same company, decisions to alter products sold to the domestic market have sometimes caused headaches for international management in the past. In one instance, changes in United States government regulations resulted in a switch from previous standing pilots to electric ignitions in all models of a particular oven product. Unfortunately, the change required use of an electric-heating coil in the electric-ignition system which is made of a very fragile material that is easily destroyed in shipment.

After the initial shipments, management learned that the new-product version had arrived in overseas markets with about 10 to 15 percent of the coils inoperable when taken out of the shipping cartons. The solution decided on was to send over replacement coils ahead of time, rather than shipping the ovens without coils and installing them overseas. Again, prevailing company policy was at the root. A member of the international department explains: "If you take anything out of the product coming down the line, then it is considered a separate product." Were the coils to be installed overseas, "we [the international unit] would have a separate inventory for products without igniters on them."

Additionally, the product change in this case meant that there was no longer a way the oven could be manually restarted. This put it at a further disadvantage in countries where electricity shortages result in "planned blackouts," with power cut off in certain parts of a city to prevent the entire city from being blacked out. Once the electric power is off, the oven becomes inoperable because its ignition system is electric, even though it uses gas as its principal power source.

As the company's international unit becomes integrated with the product division, there are hopes of avoiding situations in the future that would so hamper the company's export sales.

Final Approval

During the course of investigating the feasibility and merits of modifying a domestic product for purposes of export, the logic of proceeding or abandoning the idea completely may, in time, become self-evident to all. Often, however, the issue is not so clear-cut or, in any case, ultimately requires a formal decision on the part of some designated individual or group.

As shown in Table 2, the most common practice among the companies studied is to vest such respon-

Table 2: Responsibility for Final Decision on Adopting Products for Export

Individual or Function Responsible for Final Decision	Number of Reporting Companies	Percentage of Reporting Companies
Individual executive:		
General management executive (e.g., chairman, president, operating group or division head)	55	31%
International executive (includes export managers at operating level)	30	17
Marketing or sales executive	25	14
Engineering executive	5	3
Manufacturing executive	3	2
Other	3	2
Shared responsibility:		
Marketing and engineering executives	7	4
International and engineering executives	2	1
Manufacturing and engineering executives	1	-
Other combinations of executives	3	2
Committee responsibility	43	24
Total	177	100%

sibility in a single executive, most often, a member of general management, or else the head of the operating division that produces the domestic product. (In companies where general management is not so involved, the decision may still go to that level in cases where the expenditures required to make export modifications are substantial.) Somewhat less often, the final decision is left to an executive with an international, marketing or sales title. In a relatively few cases, the decision is made jointly by executives in two different functions, such as marketing and engineering.

Following a different course requiring group decision, nearly one-fourth of the reporting companies give the final say-so on adaptation proposals to a committee. The functions most frequently represented on such committees are international operations, engineering or other technical units, and, in at least half the cases, the marketing or sales department. (See Table 3.)

Information Sources

Questions surrounding required or desirable changes in products for export sale generally require the assembling of a diverse mixture of information from both inside and outside the company. Internal files sometimes contain past research findings, field reports, market analyses, sales inquiries, and the like that help to shed light on a market environment and possibilities for product alteration within it. Here are some examples of the varied information sources reported in this connection:

- The customer engineering requests of some manufacturers are periodically scanned to identify repetitive product specifications associated with sales in separate geographic areas. If feasible, standard export products may be developed to reflect such customer preferences. On occasion, adaptations of this kind have proved so successful that they were later incorporated into a standard product design for adoption worldwide.
- An equipment manufacturer finds expatriate employees helpful in spotting potential opportunities for promising modifications of exportable products. It is partly for this reason that the company's domestic R&D staff includes expatriates from Latin America, Europe and Japan.
- Another company reports that application of "quality circle" techniques has helped employees not only to discover ways of improving the caliber of their work but also to identify advantageous choices of color, size and shape of products for export sale.
- The formalized employee suggestion programs of some manufacturers have turned up ideas for product changes and adaptations for export.

In their attempts to keep abreast of developments and opportunities in the markets they serve, exporters usually have access to a number of outside information sources

Table 3: Reported Representation of Functional Executives on Committees Making Final Adaptation Decision

Functional Executive on Committee	Percentage of Reported Committees with Such Representation
International	60%
Engineering or technical	60
Marketing or sales	53
General management	37
Manufacturing	30
Finance or accounting	23
Research and development	19
Operations	7
Other	21
Specific titles or function not reported	19

Note: Based on reported composition of 43 companies' committees making final decisions on adapting domestic products for export sale. (For purposes of presentation here, each function was counted only once per committee, even though more than one representative from a single function was sometimes represented on the same committee.)

Adaptation Review and Approval Procedures of a Large Multinational Company

Most products of this multinational company are manufactured overseas for a particular market; and the items are either distributed within the country of manufacture or exported to other countries. Certain products are also exported from the United States. The major modifications required for the company's equipment are the result of variations in electrical and safety standards in the different countries or regions in which they are sold.

Decisions regarding both new and adapted products—wherever produced—are made at the company's U.S. headquarters under the auspices of its product review committee. This committee has 20 members, including the company's chairman and president as well as the heads of all its major operating and functional units. It meets routinely, usually once a month.

The presidents of the various business units have worldwide responsibility for their product categories, including product development, adaptation and quality. Each has the authority to convene a meeting of the product review committee.

Marketing surveys conducted by local managers in various countries around the world help to determine what products will be sold in a particular country or region. The product implications of different cultural, economic and other variables for each product must be taken into account. The product review committee assesses product requirements on the basis of such things as cost, features, use, speed, humidity control, and se vice reliability in different markets. Its evaluations encompass products in an advanced state of development, but not yet ready for market; new products; existing products; and any suggested adaptations of existing products.

If a new or modified product approved by the product review committee should then fail in the field, it would be pulled back from the market, rechecked, possibly redesigned, and then subjected to the standard review process again.

that can also provide useful clues as to possibilities for product adaptation. Many such clues come through direct contact with other exporters and government agencies.

Half the companies surveyed, for example, say that they sometimes obtain additional guidance and information on product-adaptation questions from the U.S. Department of Commerce. About four in ten respondents make use of consultants for this purpose; and a few exporters—approximately two in ten and most of them manufacturers of consumer products—look to their advertising agencies on occasion for assistance.

Understandably, however, companies often get the most valuable information of all from their customers and distributors. Some go to considerable effort to get such direction. For example:

•One company conducts meetings of its product users in each country where it does business. In the exchange of information among users and company executives, the former are encouraged to identify, among other things, needs or possibilities for adapting standard products to that particular market.

•Product-modification requests from Wilkerson Corporation's national accounts—key distributors (many of which serve markets abroad)—are so routine and so repetitive (such as for color and label changes) that the firm's "National Account Request" form includes a separate indication of any "product modification required" (Exhibit 7). Such adaptations, however, are not limited to items sold to the company's national accounts. Another form—"Request for Modified Products" (Exhibit 8)—is employed with distributors, or with other accounts that require infrequent or relatively complicated product changes. Situations calling for further action by the engineering and manufacturing units, such as the preparation of sketches, samples and cost estimates, are flagged by simple "yes" or "no" checks.

•Occasionally, operating personnel in foreign companies will petition for product changes through their labor organizations or unions. One supplier found a foreign union's suggestion for adding an automatic cutoff switch to a machine, so as to increase its safety, to be so beneficial that the switch was later added to domestic machinery as well.

•According to many exporters, international trade fairs often afford valuable opportunities for discussing product offerings with potential customers, including the merits of possible modifications for the export market.[5] There are also potential benefits from exposure to competitive offerings, as in the case of one company that was moved to make its own product more versatile after its representatives saw a foreign competitor's product on display at a trade fair.

It is especially critical for exporters to keep informed on existing and emerging government regulations in foreign areas whose effect may be to force modifications of their products. The executive in charge of international operations for one company relies on a consulting firm to provide a consistent, continuing

[5]*Business America*, a publication of the U.S. Department of Commerce, periodically publishes a schedule of international trade fairs.

Exhibit 7: A National Account Request Form—Wilkerson Corporation

National Account Request

1. DATE REQUESTED _____ UNIT "Q" NUMBER RESERVED _____
2. MODEL TO BE MODIFIED _____ REQUESTED BY _____ APPROVED FOR PROCESS ____
3. ACCOUNT _____
4. DESCRIBE APPLICATION _____
5. EXPECTED PURCHASE QUANTITY _____ DELIVERED QUANTITY _____
   WHEN REQUIRED _____
6. WHAT PRODUCT MODIFICATION IS REQUIRED: (CHECK AT LEFT IF NOT STANDARD)

   _____ PAINT _____

   _____ THREADS _____

   _____ SPECIAL PARTS _____

   _____ LABELING _____

   _____ PACKAGING: BULK _____ OTHER _____

   _____ LITERATURE _____

   _____ OTHER _____

   _____ _____

   _____ _____

ACTION REQUIRED BY ENGINEERING:			ACTION REQUIRED BY MANUFACTURING:		
PREPARE SKETCHES:	YES ___	NO ___	SUBMIT COSTS:	YES ___	NO ___
SUBMIT PERFORMANCE GRAPHS:	YES ___	NO ___	SCHEDULE PRODUCTION DATE:	YES ___	NO ___
BUILD SAMPLE UNIT:	YES ___	NO ___	OTHER: _____		
OTHER: _____			_____		

FINAL DISPOSITION:

RELEASE FOR PRODUCTION _____ (DATE)

CANCEL _____ (DATE) BY: _____

ROUTING: ORIGINAL TO PRESIDENT
COPY TO ENGINEERING
COPY TO MANUFACTURING
COPY TO SALES

QUOTE:

ESSENTIAL INFO ON OTHER SIDE: YES___ NO___

Explanation of Terms: "Q" number. Assigned digits used to alert the company and the customer that this item is different from the standard product.

Exhibit 8: A Form for Requesting a Modified Product—Wilkerson Corporation

Request for Modified Product

DATE INITIATED _____ NATIONAL ACCOUNT "Q" NUMBER _____

REQUESTED BY _____ NATIONAL ACCOUNT NAME _____

REGIONAL SALES MANAGER _____ SALES APPROVAL _____

DESCRIPTION OF NATIONAL ACCOUNT _____

_____

UNIT NUMBERS TO BE PURCHASED - VOLUME 1st 12 MONTHS:

NO.	QTY.	NO.	QTY.	NO.	QTY.	NO.	QTY.

PRODUCT MODIFICATION REQUIRED: (CHECK IF NOT STANDARD)

____ AIR DRY LACQUER COLOR _____

____ UNIT LABEL: SUPPLIED BY: WILKERSON _____ NATIONAL ACCOUNT _____
TO BE PAID FOR BY: WILKERSON _____ NATIONAL ACCOUNT _____

____ CARTON LABEL _____ UNIT LABEL APPROVAL BY PROD. _____

____ SPECIAL PARTS: SEE "Q" REQUEST UNDER NUMBER _____

____ OTHER _____

_____

SHIPPING: DIRECT _____ LOCATION _____

INVOICING: DIRECT _____ THRU DISTR. _____ CREDIT APPROVAL _____

WILKERSON VENDOR DISCOUNT APPROVAL _____ REFERENCE _____

DISCOUNT TO NATIONAL ACCOUNT _____ _____ MINIMUMS _____

NET DISCOUNT _____ _____

PARTS DISCOUNT _____ _____

FOB _____ _____

TERMS _____ _____

APPROVED FOR QUOTE _____ _____

DATE _____ _____

Explanation of Terms: "Q" number: Assigned digits used to alert the company and the customer that this item is different from the standard product.

worldwide base of regulatory information. "For a while when we first started exporting," he explains, "we did a lot of this on our own. We had our own marketing people go to the various regulatory bodies in each country, pick up the regulations, then try to translate and interpret them. However, we found that this is a very time-consuming job and that marketing people are not the best to try to interpret regulations and requirements. Then, we subscribed to the service of a domestic organization that would give us this information in English. There were volumes of regulations coming through, and we had to hire two additional engineers just to keep track of them, and to tell us which ones we had to meet." Now, after surveying the situation in the countries in question, the consulting firm indicates relevant regulations on a grid format, along with required dates for implementation.

Domestic trade associations help some manufacturers become more knowledgeable about foreign product regulations. (Such organizations often lobby both at home and abroad for or against regulations affecting exports that are judged beneficial or detrimental to their members.) Joining trade organizations in foreign countries (or at least maintaining contact with them when membership is not available) can reportedly yield advantages as well, since they are usually well-informed on local product restrictions and, in some instances, actually participate in setting standards for imports or locally sold goods.

Decision Support

Planners in some companies have developed various decision-support tools to facilitate the evaluation of adaptation proposals. Several, for example, rely on specialized grid concepts and evaluation devices for identifying the patterns of product-adaptation possibilities or requirements among different export markets.

Exhibit 9 illustrates one such grid form, used by a producer of industrial vehicles. The aim is to highlight the location and clustering of critical factors influencing adaptation decisions. Citing the grid's possible application to noise-abatement requirements as an example, the company's international operations manager explains:

"In looking at noise requirements for all of Western Europe, we find those of France to be most stringent. So we must design to the French requirements. Given this

Exhibit 9: A Sample Grid for Industrial Vehicles

Items Subject to Regulation or Special Requirements	Country A	Country B	Country C	Recommendation as to Impact or Importance
Speed limits				
Dimensional requirements				
Front and rear overhang				
Turning circle				
Weight				
Steering				
Underride protection				
Tires				
Brakes				
Fuel tanks				
Wheel chalks				
Exhaust				
Noise				
Engine performance and transmission				
Miscellaneous:				
- Access to cab				
- Visibility				
- Controls				
- Lighting and signaling				
Other:				

worst situation, we go to the engineering department and ask what it would take to achieve that level. They provide an estimate of the design hours, and from production control we get an estimate of the probable added cost of material and labor. If the results are reasonable, and we think we can still sell our machine at that cost—or if we want to absorb the cost—we go ahead and design the adapted item and package it accordingly.

"This is basically a marketing decision, determined by the importance of the market. For example, if a 70-decibel level is required in a Scandinavian market where we do not sell many machines, we may decide not even to package a machine for that market."

Another large manufacturer finds that the increased costs of designing a product to meet the overly stringent standards set for one local country or market area can jeopardize the company's competitive position in other regions. As a rule of thumb, a spokesman explains: "If it is one country and a small market that has the highest specifications, we would not design all products to meet those specifications."

Weighting schemes—both for separate use and in conjunction with grid forms—reportedly help some planners in deciding on the relative importance of factors affecting possible product adaptations by their companies. Exhibit 10 illustrates a ten-point rating scale proposed by one author for this purpose.

Summary forms and checklists of some firms, like those used for appraising new-product proposals, bring together for concise analysis key facts and estimates relevant to the adaptation decision. As Exhibit 11 illustrates, for example, such a checklist may spell out the implications of the proposed adaptation for sales, pricing, competitive position, engineering action and costs, profit contribution, return on investment, cash flow, and so on.

Implementing Adaptation Decisions

When a domestic product is to be modified for export, this is most frequently accomplished in the manufacturer's plant or, occasionally, in its outlying distribution facility. If modifications are of a nature that they can be carried out by dealers or distributors overseas, many manufacturers will elect to follow this approach. A common report is: "We make major modifications at the factory, and other minor modifications are made at our distributor's location."

Companies with facilities for doing so sometimes prefer to perform the final assembly and major modification of some, or even all, their exported products overseas. A "knocked down" version of a product may be shipped to a foreign assembly area where the product is assembled, possibly modified or adapted in some way from the standard version, and then shipped to the final market. Thus, major capital expenditures for plant and equipment are incurred in the home country, while those for product adaptations made to suit individual market requirements are incurred elsewhere. Where adaptation or modification calls for the addition of components, this procedure may help to conform to local laws that require a certain percentage of an imported product to be manufactured in the country where it is sold. Manufacturers exporting many products to many markets often employ combinations of methods, locations and people to adapt products in order to suit individual market needs.

The competence and willingness of local distributors or service representatives in foreign areas to make product modifications is crucial for some manufacturers in remaining competitive in such areas. Explains one company executive: "The overhead at the distributorship is far less than here at the manufacturing plant; the

text continued on page 39

Exhibit 10: An Environmental Factor/Adaptation Rating Scale

Factor	*Rating* 1 2 3 4 5 6 7 8 9 10	*Adaptation*
Labor cost	_____	Automation or manualization of production
Literacy	_____	Remarking and simplification of product
Income	_____	Quality and price change
Maintenance	_____	Changes in tolerance
Climate	_____	Product adaptation
Isolation (heavy repair)	_____	Product simplification, reliability improvement
Standards	_____	Recalibration of product
Availability of other products	_____	Greater or lesser product integration
Power availability	_____	Resizing of product
Special conditions	_____	Product redesign or invention

Source: Endel J. Kolde, *International Business Enterprise* (second edition). Englewood Cliffs, N.J.: Prentice Hall, Inc., 1973, p. 407.

Exhibit 11: A Checklist Form for Proposed Product Adaptation

ADAPTED PRODUCT CHECKLIST SUMMARY

Name of adapted product _____

Estimated sales volume (5 year average) Units: _____

$: _____

Authorization request total _____

Estimated rate of return _____

Noneconomic benefits:

Approval signatures:

_____
Engineering

_____
Sales—Domestic

_____
Marketing/Engineering

_____
Sales—International

_____
Operations

_____
Finance

_____
Division President

Exhibit 11: A Checklist Form for Proposed Product Adaptation (continued)

Prepared by _____

Date _____

1.00 Name of adapted product _____

For manufacture at _____

.01 Description:

.02 This product replaces (if applicable):

2.00 Marketing data

.01 Market determination:

.02 Market size:

.03 Market growth:

.04 Target market share:

.05 Product life:

.10 Competitive data:

.01 Market positioning and significant competitive features:

.02 What is likely reaction of competitors to this adapted product?

Exhibit 11: A Checklist Form for Proposed Product Adaptation (continued)

.03 Pricing:

1. List price				
2. Trade discounts				
3. Other costs				
4. Average net billing price				
5. Cash discounts				
6. Net price after discounts				

.04 How was price established? (Competitive price with similar products, to achieve gross profit marginal cost, etc.)

.05 What is the likelihood of price erosion during the life of the product?

.20 Field service and parts requirements:

.30 Advertising and sales promotion plans:

.40 Distribution plan:

.50 Styling and packaging:

.01 Has product styling been approved?

.02 Does this adapted product entail significant packaging costs?

Exhibit 11: A Checklist Form for Proposed Product Adaptation (continued)

.60 Product warranty considerations:

.70 Sales forecasts:

.01 Present forecast assuming no product adaptation:

Product			1st yr.	2nd yr.	3rd yr.	4th yr.	5th yr.	Average yrs. 6-10
	Most	U						
	Likely	$						
Product				% of Market			Growth	
			1st yr.	5th yr.	yrs. 6-10		rate/yr. 1-5	
	Most	U						
	Likely	$						

.02 Present forecast with product adaptation:

Product			1st yr.	2nd yr.	3rd yr.	4th yr.	5th yr.	Average yrs. 6-10
	Opti-	U						
	mistic	$						
	Most	U						
	Likely	$						
	Pessi-	U						
	mistic	$						
Product				% of Market			Growth	
			1st yr.	5th yr.	yrs. 6-10		rate/yr. 1-5	
	Opti-	U						
	mistic	$						
	Most	U						
	Likely	$						
	Pessi-	U						
	mistic	$						

Approval: _____ Date _____
Sales Manager

Exhibit 11: A Checklist Form for Proposed Product Adaptation (continued)

3.00 Engineering data

.01 Product performance:

.02 Patent status:

.03 Nature and extent of test program (including lab and field tests):

.04 Status of safety requirements and approvals (product must comply with applicable standards and Product Safety Committee Review):

.05 Engineering costs incurred to date: $ _____

% of total engineering costs to be incurred on project: _____%

4.00 Completion schedule Date

.01 Appropriation request approval complete _____

.02 Manufacturing engineering and tooling _____

.03 Pilot production lot: _____ units _____

.04 Appropriation request approval (tool tryout) _____

.05 First product performance review _____

Exhibit 11: A Checklist Form for Proposed Product Adaptation (continued)

5.00 Profit contribution

.02 Adapted products (most likely forecast):

		Proposed adapted products		
1. Standard material cost				
2. % freight				
3. Total standard cost				
4. Net price				
5. Gross profit				
6. % Gross profit				
7. Units forecast, 1st year				
8. Total gross profit, 1st year				
9. Average gross profit, _____ years				

6.00 Economic evaluation (return on investment)
(Fill out Schedules I, II, III as appropriate, and calculate rate of return.)

7.00 Product pictures
(attached)

Exhibit 11: A Checklist Form for Proposed Product Adaptation (continued)

ECONOMIC EVALUATION SUMMARY - SCHEDULE I

BASED ON 20% RATE OF RETURN

TITLE _____

DIVISION _____

PROJECT # _____

EXPECTED COMPLETION TIME _____

1.	ECONOMIC LIFE		YRS				
2.	PRESENT VALUE OF NET ANNUAL ADVANTAGE CASH INFLOW						AMOUNT
	Schedule II, Line 13	$	× Factor from Table		=	$	
	Schedule IIA, Line 7 (If Applicable)						
3.	PRESENT VALUE OF TAX SAVED ON DEPRECIATION						AMOUNT
	Schedule II, Line 1 Amount Detailed as to:						
	Classification	Deprec. Years	Amount		Factors from Chart		
	Land & Bldg. Improv.		$	×		=	$
	Machinery			×		=	
	Tooling			×		=	
	Shop & Test Equipment			×		=	
				×		=	
	Total		$				$
4.	TOTAL PRESENT VALUE OF ALL ANNUAL CASH INFLOW (Line 2 and Line 3)						$
5.	TOTAL NET INVESTMENT CASH OUTFLOW (From Schedule II, Line 9)						$
6.	PROFITABILITY INDEX $\left(\frac{\text{Line 4}}{\text{Line 5}}\right)$						
7.	RATE OF RETURN (Read from Graph Using Profitability Index)						%

Non-Economic Benefits Expected:

_____

_____

_____

_____

_____

_____

_____

_____

Review Signatures

	Init.	Date
Prepared By		
Div. Controller		
Div. President		
Corp. Review		

Exhibit 11: A Checklist Form for Proposed Product Adaptation (continued)

ECONOMIC EVALUATION WORK SHEET - SCHEDULE II

DIVISION _____

PROJECT # _____

	NET INVESTMENT CASH OUTFLOW	$ Amount
1	Capitalized Amount	
2	Minus Investment Tax Credit on Above (Line 1 x ___ %)	
3	Expensed Amount	
4	Minus Income Tax Credit on Above (Line 3 x 50%)	
5	Existing Assets Employed	
6	Minus Disposal of Old Equipment - Cash Value	
	Plus or Minus Tax on Above, Book Gain (Loss) x 50% =	
7	Investment Avoided - Capital net of Investment Tax Credit	
	- Expense net of Income Tax Credit	
8	Working Capital Increase - Accounts Receivable	
	- Inventory	
	- Other	
9	Total Net Investment Cash Outflow	$

	NET ANNUAL ADVANTAGE CASH INFLOW	Present	Expected	Diff.	ANNUAL $ AMOUNT
10	Cost Reductions (Increases)				
	Annual Unit Volume				
	- Direct Cost Savings		Unit Cost		
	Direct Material	$	$		
	Direct Labor				
	Direct (Variable) Overhead:				
	Indirect Labor, Rework, etc.				
	Labor Fringe				
	Supplies and Tools				
	Scrap Expense Saved-net of Salvage				
	- Fixed Cost Savings		Annual Cost		
	Property Tax and Insurance	$	$	Diff →	
	Rentals and Leases			→	
	Repairs and Maintenance			→	
	Salaries			→	
	Indirect Labor			→	
11	Revenue Increases (See Alternate Schedule IIA)	Units*		Unit Price	
	Annual Sales Volume - Added		x	$	=
	Annual Direct Costs - Deducted	D. Mat'l	D. Lab.	D. O'Head	Total
	Units* x Unit Costs	$	$	$	$ =
	Incremental Fixed Costs - Deducted Manufacturing				
	Selling and Promotional				
	Administrative and Engineering				
12	Net Annual Advantage Before Taxes - Total (Lines 10 and 11)				$
13	Total Net Annual Advantage Cash Inflow After Taxes (Line 12 x 50%)				$

Exhibit 11: A Checklist Form for Proposed Product Adaptation (continued)

ECONOMIC EVALUATION WORK SHEET - SCHEDULE III

Present Value of Annual Cash Inflow - Revenue Increases

Division _____

Project _____

	✓ Check applicable line	LIFE YEAR OF INVESTMENT									
		1st 11th	2nd 12th	3rd 13th	4th 14th	5th 15th	6th 16th	7th 17th	8th 18th	9th 19th	10th 20th
1	Annual Unit Sales Volume										
2	Annual Sales Revenue										
	Unit Price										
	Unit Volume X Unit Price =										
3	Annual Direct Costs										
	Unit Direct Material										
	Unit Direct Labor										
	Unit Direct (Var.) O'Head.										
	Total Unit Direct Cost										
	Unit Volume X Unit Cost =										
4	Annual Incremental Fixed Costs										
	Manufacturing										
	Selling and Promotional										
	Administrative										
	Engineering										
5	Annual Cash Inflow (Lines 2-3-4 = 5)										
	Net of Taxes (X 50%)										
6	Present Value Factor										
	✓Check Line Used — 1st through 10th Year	.833	.695	.578	.483	.402	.335	.279	.232	.194	.161
	11th through 20th Year	.135	.112	.094	.078	.064	.054	.045	.038	.031	.026
7	Present Value of Cash Inflow — Total										
	(Lines 5 X 6 = 7) Transfer total to Schedule I, Line 2										

distributor has service shops within which he can do some of the minor modifications cheaper than we can." Also, in the case of adaptations necessitated by local regulations, the dealer is often in a better position than the manufacturer to check with the regulatory agencies should any questions arise.

The spokesman for a copier manufacturer tells of an alert local service representative in a South American country who once discovered that the reason for the frequent paper jams occurring there was that the paper could not be kept dry in the moist climate. As a remedy, he tried setting up a small light bulb in the machine over the paper. The heat from the bulb, as he suspected, kept the paper dry and prevented any further paper jams. This adaptation remedy was first made known to the local service manager, later to the manufacturer's area headquarters, and then to the worldwide service manager. Finally, information on this adaptation possibility was published in a bulletin going to all service personnel, thereby alerting everyone in all areas who might face similar conditions.

The circumstances peculiar to each instance of product adaptation generally determine not only who will be called on to make the change but how that change will be carried out. For example, if a product component needs to be changed from that used domestically because of different safety requirements in a foreign market, the company might, depending on the situation and its capabilities: manufacture the component itself in its home-country factory; purchase the component domestically from an outside supplier; purchase the component overseas and import it for use in the factory; purchase the component overseas and install it there; manufacture the component overseas and install it there; or, perhaps, choose even to manufacture the whole product overseas, with the generalized component built in, for sale to local customers.

Here are some common ways in which companies adapt domestic products for export sale:

•*Add-ons:* Something supplemental is added to the product that is not a part of the product when it is sold in the domestic market. This may be a feature, such as an automatic cutoff switch or additional wiring; or it may be an ingredient, such as a chemical preservative. Some appliance makers, for example, export their standard domestic refrigerators, which work well in most foreign markets. However, there are some countries in which the domestic version will not run on the local current; and transformers must be added for the units to operate in those areas. In the plumbing supply business, another kind of add-on consists of a connecting piece used to join together two or more dissimilar size pipes or fixtures.

•*Special kits:* A company may provide distributors or ultimate foreign buyers with a kit containing instructions and materials needed to make a product modification. Most common are kits used to adapt domestic electrical products to different electrical specifications, with the conversion thus done "in the field."

•*Component substitution:* Export modification of some products is accomplished by using interchangeable components in the product. For example, one company sells what appear to be identical products in domestic and foreign markets. However, the unseen difference is in the motors, which are not the same. A U.S. manufacturer of maintenance equipment arranges similar substitution when shipping certain of its equipment items to Japan. If a diesel engine is the Japanese customer's preference for an item not so equipped for standard domestic models, the base product is shipped without an engine from the United States to Japan, where one is installed.

•*Partially customized:* Another related possibility is for fundamental components of a product to remain the same for both domestic and export sale, but to have certain peripheral components or accessories changed or customized for the latter.

•*Purchase:* In some instances, it is simpler and more economical for an equipment manufacturer to purchase, rather than to make, parts that are for one reason or another different from those going into the domestic product. The cabs of some heavy vehicles imported into the Economic Community, for example, must contain EC-approved bulbs or lenses. Therefore an original equipment manufacturer in the United States must either import these items and install them in the domestic factory or else buy them for installation overseas.

•*Design-stage adaptation:* Particularly in companies dependent on sales in international markets to make a strong contribution to their profits, product-adaptation issues in catering to foreign markets are increasingly considered at the design or product-development stage. Some such companies are able to build flexibility into original product designs that allow a product to be easily and inexpensively adapted later on.

Identifying adaptation options at the design stage is said sometimes to be greatly facilitated through use of CAD (computer-aided design). By pushing a few buttons, product engineers can modify drawings in minutes. Though not feasible for all manufacturers, the approach offers flexibility and savings for some.

Employing a "worldwide" marketing approach, it is sometimes possible to design products that are suitable for multiple markets. A few companies find it possible to meet the most stringent standards or requirements encountered anywhere with products that are acceptable in all their markets, in effect bypassing later adaptation problems entirely. The nature of their products or the

attendant cost limitations, however, make the development of such global products impractical for many other manufacturers.

Another way that some companies circumvent adaptation is by developing and producing certain products that are suited for and sold only to export customers. Thus, certain models of cars produced by U.S. makers can be purchased only in foreign markets.

There is a hybrid approach that combines adaptation and substitution, as in the case of a consumer appliance manufacturing company that first designs a "tough" product to meet regulations and other key requirements in most foreign markets and then tries to meet the "quirks" (such as unusual specifications for power cords or plugs at various points around the world) on a country-by-country basis.